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ABSTRACT

This four-part study introduces the reader to the methods and procedures used in descriptive linguistics and their application to the sound systems of English and Russian. A condensed phonology of English includes discussion of consonants, vowels, stress, phrasing, and pitch. The section on Russian phonemes examines: (1) consonant and vowel phonemes; (2) palatalization, voicing, and classification of consonants; (3) vowels; and (4) other phonemes. A comparison of Russian and English sounds in nine areas concludes the paper. Numerous examples of words transcribed in phonetic symbols illustrate linguistic principles. For a comparison document see FL 001797. [Hard copy not available due to marginal legibility of original document.] (RL)

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THE SOUNDS OF ENGLISH AND RUSSIAN

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The System of Sounds of English and Russian

1. Introduction

The attempt made here is to consider language in terms of descriptive linguistics. This is a method of studying a language which grew up primarily within the discipline of anthropology. It consists, in essence, of examining a language the way a naturalist examines the world around him. Descriptive linguistics is concerned, as its name implies, with describing languages as they are. It is concerned with finding out how languages work and identifying the relevant units in terms of which the utterances of the language may be analyzed. The descriptive linguist is interested in the structure of a language, i.e., the way the units at various levels, (e.g. sounds, words) are employed and the complex relations among them.

In proceeding to discover the structural system underlying the use of a given language, linguistics makes a key use of the principle of contrast. When two utterances constitute different messages they are said to be in contrast. If the two contrasting utterances are alike except for one part in each, then these two parts are in contrast. By repeated substitution of different parts and comparison of the resulting utterances the linguist determines the relevant units. All utterances can then be described in terms of these units and the kinds of arrangements in which they occur. The interchangeability of units at various points in an utterance $\frac{i}{m}$ which the linguist discovers by the procedures of substitition $\frac{i}{m}$.

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is called commutation.

¶ Descriptive linguists apply this principle of contrast separately to the sounds and to the grammar of a language, and on each of these two separately considered strata they postulate as fundamental the minimum commutable units which can be found. In the sound system of a language these minimal units are called phonemes; in the grammatical system the minimal units are called morphemes.

¶ In the investigation of speech sounds, the directly relevant fields of linguistics are known as phonetics and phonemics.

¶ Phonetics concerns the details of pronunciation. A phonetic description is usually presented in terms of what goes on in the mouth and throat to produce a certain sound. The various component features that can be isolated as contributing to the total impression of the sound are mentioned. That is, the way the lips are held is one thing that would be noted--whether they are close together or far apart, whether they are protruded or drawn back. The position of the tongue would figure in the description--whether flat in the mouth or bunched up, whether some part of it is close to or touching the roof of the mouth. The condition of the throat also enters in--whether constricted or open--as does the activity of the larynx, which can be closed or can be opened to allow air to pass through, giving various types of sound production. Also the way all these circumstances change as the sounds are being produced is important to the description. Based on such information, some account is given of the audible effects or qualities associated with the different articulatory features. In the ideal case a phonetic analysis is pursued to the point where a trained reader can have a substantially adequate idea of the original sound.

¶ Phonemics deals with the question of which sound differences in a given language are the ones that really matter. Sufficiently careful listening reveals a tremendous range of possible sounds in any language, but linguistic investigation establishes only a limited number of units which sufficiently account for the use of sounds as a signalling system for speakers of that particular language. Anything a speaker may say in some language, any given utterance, can be made distinct in pronunciation from other utterances only by virtue of certain contrastive differences. These can be seen in their most basic form as differences which are made between different words. For instance, in English,

sun is distinguishable from each of the following:
from sum
from sin
from fun;

each of these contrastive, meaningful differences--sun versus sum, sun versus sin, sun versus fun--establishes a phonemic distinction in English. In determining what message a speaker is imparting, the ordinary listening behavior of the native user of a language does not take account of phonetic differences which do not correspond to phonemic distinctions. Other differences between sounds which may be just as noticeable from the point of view of physical measurement, still do not prevent the sounds in question from being regarded as equivalent by users of a given language.

¶ A pair of sounds that differ in a given way phonetically may be phonemically distinct in one language but not in another.

¶ To illustrate this, consider the phonetic quality of voicing. Voicing is the humming sound produced by the vibration of the vocal cords in the larynx.

¶ The difference between a voiced sound and a voiceless one can be important in English, as may be seen from such pairs as:

razor	lazy	dozing	rival	avid	leaving
racer	lacy	dosing	rifle	aphid	leafing

The first row have voiced sounds [z], [v], and the second row have voiceless sounds [s], [f], in the middle of the words.[1] Otherwise, each word in the lower row is the closest possible match in sound to the word above it, so that the two form what linguists often refer to as a minimal pair. The difference between the voiced and voiceless sounds in the middle of the words is the only significant distinction in pronunciation between the two different English words in each pair. On the basis of such data we say that there are distinct phonemes /z/ and /s/, and likewise /v/ and /f/, in English. When representing phonemes in writing, using a single phonemic symbol for each, the most usual convention is to write these between slant lines, while symbols for sounds being considered purely phonetically are put within square brackets.

¶ In like way as was done for English, the existence of a phonemic distinction between /z/ and /s/ and between /v/ and /f/ can be demonstrated for Russian.

ра́за	of a time (gen. sing.)	коза́	goat	зуб	tooth
ра́са	race	коса́	scythe	суп	soup
гри́ва	mane	сова́	owl	ва́нты	shrouds
гри́фа	griffin	софа́	sofa	фа́нты	forfeits

¶ [1] By prolonging the sounds (dozezzzzzing - dosesssssing; leavvvvving — leaffffing) while holding one's fingers against the Adam's apple, it is possible to feel the vibrations in the larynx for [z] and [v] and to note their absence for [s] and [f].

¶ In Spanish, also, we can find instances of [z] and [s]:

[z] in		[s] in	
mismo	same	sus	his, her, their (plural)
fresno	ash tree	denso	dense
eslavo	Slav	falso	false
esbozo	a sketch	esposo	spouse
desde	since	esta	that
rasgo	I tear	rasco	I scratch
deshielo	a thaw	desjunto	I disjoint
deshueso	I debone	asfalto	asphalt
		and generally in casa	house

The difference between Spanish [z] and [s] is not a contrastive difference. It is impossible to produce two distinguishable utterances in Spanish for which an opposition between [z] and [s] has to be considered as the basis for discrimination. No word has [z] in just the circumstances where a different word might have [s], or vice versa. In a case like this, where the phonetic difference is not independently significant for signalling what has been said, the distinction is called allophonic. Thus, for Spanish, [z] and [s] are said to be allophones of a single phoneme /s/.

¶ The feature of voicing is, then, not something that matters in the system of the language as far as Spanish [z] and [s] are concerned. It does, however, serve to make a phonemic distinction between /d/ and /t/.

día	day	just as with Russian	дам	I shall give	or English	undyed
tía	aunt		там	there		untied.

There are languages, though, for which no phonemic distinctions depend upon voicing. In Cree, for instance, there are words which have a [d]-sound and words which have a [t]-sound.

[d]	in n'tehi	my heart
[t]	in kitehi	your heart

But there can be no words which differ only by the one having [t] where the other has [d]; this is not a distinction which is ever independently significant, and both the above words have the Cree phoneme /t/.✓

¶ Examples have been given of English (and Russian) word-distinguishing phoneme pairs which differ essentially in that one is voiced and the other voiceless: /z/ versus /s/, /v/ versus /f/, /d/ versus /t/. On the other hand, there are instances in English and Russian where sounds occur which differ as to voicing, but where the difference is not distinctive. For example, in normally rapid pronunciation, l is

voiced in	glue	Bligh
voiceless in	clue	ply.

This is only a phonetic difference among sounds assigned to the same phoneme /l/. We never come across different English utterances conveying different messages and having as their sole essential distinction the occurrence of a voiceless l-type sound in one where a voiced l occurs in the other. Russian, too, may have both voiced and voiceless л.

voiced	жезл	rod	игл	of needles (gen. pl.)
voiceless	смысл	sense	цикл	cycle

Again, this is without phonemic consequences, since both types count as instances of the same fundamental sound.

✓ These statements apply to the Ft. Albany, Ont., dialect of Cree, as represented in materials obtained by Rev. Dr. C. Douglas Ellis.

In Welsh there can be words which differ in that one has a voiced l where the other has a corresponding voiceless sound (written ll in Welsh spelling), making this a phonemic distinction.

potel	bottle	sil	spawn (noun)
castell	castle	sill	syllable

Speakers of any language have developed ingrained habits of identifying as the same sound the phonetically different allophones which do not contrast in their language but count as members of the same phoneme. At first in listening to a new language people react largely in terms of their native-language identifications. Therefore, in comparing the pronunciation of two languages, it is useful to consider not only the differences in phonetic details but also the way in which the sounds of each are organized as a system of signalling units. It is in this latter regard that the techniques and categories of descriptive linguistics are particularly helpful, through the explication of what phonemes and what system of phonemic contrasts each language has and in pointing out how the two ways of organizing sounds mesh and how they clash.

In the text which follows, the sound system of English is presented first, together with some technical linguistic notions about how the sounds of a language are organized (chap. 2). Chapter 3 deals similarly and a bit more summarily with Russian, including mention of certain of the problems in determining exactly what is the organization of sounds found there. Then, as the core of this book, the sounds of the two languages are set over against each other in chapter 4.

In contrasting the two languages, it is important to realize that we are not comparing two exactly fixed and unvarying sets of speech habits. American English, the kind with which we are mainly concerned, shows extensive regional and social variation--let alone the different sorts of prevalent pronunciation found on other continents. There is also a considerable variety of types of standard Russian, although not as wide a range as for English. In the discussion, then, there will be occasions for referring to different dialects of the two languages. That term is used here in the sense it has in linguistics,to cover the speech of any group when that speech is sufficiently uniform to be described together as a single system. In this sense of the word, it follows automatically that everyone who speaks speaks some dialect of some language. The dialects of interest in this work are all acceptable and standard varieties either of English or of Russian.

END--Chapter 1

2. A CONDENSED DESCRIPTION OF ENGLISH PHONOLOGY

2.1 Consonants

In English, twenty-four phonemically distinct consonant sounds are used to distinguish words. Examples of each are given below, after the phonemic symbol which will be used to represent it in this study.

/p/	pie	Poe	pop	wrapper	Phillip
/b/	buy	beau	Bob	jabber	hubbub
/m/	my	mow	mom	hammer	summum
/t/	tie	toe	tot	hatter	Whittet
/d/	dye	dough	dud	adder	wedded
/n/	nigh	know	nun	manner	cannon
/k/	χ (chi)	coo	kick	lacquer	psychic
/g/	guy	go	gig	dagger	Gehrig
/ŋ/			young	hanger	ringing
/f/	fie	foe	fife	gaffer	tariff
/v/	vie	vow	verve	cadaver	olive
/θ/	thigh	thaw	wrath	author	Edith
/ð/	thy	though	wreathe	lather	

/s/	sigh	so	sauce	Vassar	basis
/z/	Zion	zoo	Z's	hazard	eases
/š/	shy	show	shush	dasher	relish
/ž/				azure	
/č/	chive	chew	church	catcher	ostrich
/ǰ/	jive	Joe	judge	badger	village
/l/	lie	low	lull	valor	laurel
/r/	rye	roe	rear	error	horror
/w/	Y(wye)	woe	wow	power	duo (duwow)
/y/	yi!	you	joy	lawyer	clayey
/h/	high	hoe			
no initial consonant	eye	owe			

There are several ways in which the consonants in English can be grouped naturally into sets exhibiting certain relationships.

There are sixteen consonants which can be grouped in pairs, of which one is voiceless--produced without vibration of the vocal cords --while the other is regularly voiced, accompanied by vocal-cord vibration.

These pairs--with the voiceless member of each pair given first--are as follows:

/p/ - /b/

/t/ - /d/

/k/ - /g/

/f/ - /v/

/θ/ - /ð/

/s/ - /z/
/š/ - /ž/
/č/ - /ǰ/

For the other eight consonant phonemes no difference between vioceless and voiced sounds ever functions to make a distinction between words. Of the eight, /h/ can be considered as normally voiceless, the others (/m/, /n/, /ŋ/, /l/, /r/, /w/, /y/), normally voiced. (Actually some of these may at times be voiceless, e.g. /l/, /r/, /w/ in click /klik/, crick /krik/, quick /kwik/, but this condition is induced automatically by the preceding consonant and does not by itself serve to distinguish words.)

For each of the first three voiceless-voiced pairs there is a third related phoneme for which the position of lips and tongue is the same, but the nasal passage is open.

/p/, /b/ - /m/   /t/, /d/ - /n/   /k/, /g/ - /ŋ/

Some of the consonants involve a complete locking, for a moment, of the air passages, and so are sounds which cannot be indefinitely prolonged. These are referred to as *stops*.

/p/, /b/   /k/, /g/
/t/, /d/   /č/, /ǰ/

Sounds which are not stops are called continuants. Some of these involve the rough passage of the air at some point of the mouth, creating a noisy effect. These are called fricatives (involving friction).

/f/, /v/ /s/, /z/
/θ/, /ð/ /š/, /ž/

The two English phonemes /č/ and /ǰ/, which begin as stops and end as fricatives, are sometimes called affricates.

The continuants without appreciable frictional disturbance of the breat stream are called resonsnts:

/m/, /n/, /ŋ/, /l/, /r/, /w/, /y/

The ones said so that air can pass through the nose--/m/, /n/, /ŋ/--are called nasals.

Vowels, to be treated in section 2.2, are also resonants.

The English phoneme /h/ is special in that, while it involves friction, this is not friction localized at some point in the mouth but a generalized roughness of a sort known as "cavity friction."

(The terms which have been applied here to English sounds are terms used in linguistics for describing the sounds of any language.)

Further useful groupings of sounds are possible based on similarities in the formation of the sounds in the mouth.

Involvement of lips:

/p/, /b/, /m/ - /f/, /v/ - /w/0

Tip of tongue near or against teeth:

/t/, /d/, /n/ - /s/, /z/ - /θ/, /ð/ - / /

Tongue against or close to hard palate:

/č/, /ǰ/ - /s/, /z/ - /y/ - /r/

Back part of tongue involved:

/k/, /g/, /ŋ/.

There are technical terms to describe the various mouth-part positions for all these sounds, as:

/p/, /b/, /m/ : bilabial (both lips together).
/f/, /v/ : labio-dental (lower lip and upper teeth)
/θ/, /ð/ : inter-dental (tongue between teeth)
/t/, /d/, /n/, /s/, /z/ : alveolar (tip of tongue against or approaching the gum ridge (alveoli)).
/č/, /ǰ/, /š/, /ž/, /y/ : palatal (tongue against or approaching the roof of the mouth (palate)).
/k/, /g/, /ŋ/ : velar (tongue touching--it could be merely near--the soft palate (velum) , the back part of the roof of the mouth).

And more specialized terms:

/l/ : lateral - the tongue may touch the roof of the mouth but the sides (latera) are left open.
/r/ : retroflex - the upper surface of the tongue made partly concave by the bending up (or bending back, hence retroflexion) of the tongue tip.
/w/ : is usually said to be labial rather than bilabila, as the lips are pursed rather than brought toward each other.

2.2 Vowels

Vowel phonemes of English, as they will be represented in in this study, are illustrated by the examples following:

/i/	miss	bit	fill
/e/	mess	bet	fell
/æ/	mass	baat	Hal
/ʌ/	muss	but	hull
/a/	mosque	bot-fly	doll
/o/	sauce	bought	fall
/u/	puss	foot	full

Those vowel sounds which usually involve appreciable change in the position of the tongue or lips are regarded as diphthongs, combinations of a vowel phoneme with a following glide. The glide phonemes of English are /y/ and /w/; the glides are produced by movement of the tongue and lips from the position they have for some vowel toward the position they would have for /y/ at the beginning of a word. We will use the term nucleus to refer either to one of the simple vowels ("monophthongs") illustrated above or to a diphthong. (The term has been chosen since a vowel or diphthong forms the nucleus, or indispensable central core of a syllable.)

The diphthongs generally present in American English are:

/iy/	geese	beet	feel
/ey/	mace	bait	fail
/ay/	mice	bite	file
/oy/	moist	quoit	foil
/aw/	mouse	bout	fowl
/ow/	most	boat	foal
/uw/	moose	boot	fool

The vowels which can occur before /r in English present many special problems for a linguistic description, and further discussion will be given to them in a later section. One obvious factor involved is that many kinds of English speech do not have an r sound except when a vowel follows (this is often called "r-less" English). In this study the other type of speech ("r-ful" English) will generally be discussed. The ordinary combinations of nuclei and following /r/ when the /r/ is not in turn followed by another vowel will be represented as follows:

/ir/	shear		
/er/	share	/ur/	sure
/ʌr/	shirr	/ayr/	shire
/ar/	shard	/awr/	sour
/or/	short shore		

While the consonant phonemes show a remarkable degree of stability throughout the English-speaking world, different dialects vary tremendously as to vowel nuclei.[1] Dialects differ as to what nucleus occurs in a given word, as for example: whether creek is /kriyk/ or /krik/; whether dog is /dog/ or /dag/; whether soot is /suwt/, /sut/, or s t/. They differ also as to total number of vowel nuclei used to distinguish words, especially by having diphthongs other than those listed above. The extra diphthongs may appear in quite different sets of words. For example, a diphthong we would represent by / w/ may be found both in the dialects of certain speakers from Toronto, and of certain speakers from Philadelphia; but for the Torontan it replaces /aw/ in mouse, while for the Philadelphian it replaces /ow/ in coke.

Most fundamentally, dialects differ as to how many sets of words are kept distinct by phonemic differences between vowel nuclei. For example, speakers of American English from certain areas do not make the contrast--represented in this study, however--between /o/ and /a/ before a consonant (not including

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[1] This is not to say that differences regarding consonants are absent. We have already mentioned the difference between "r-full" and "r-less" English. Another well-known difference is the identity of whale, whether, which with wail, weather, witch, in some dialects but not in others.

/w, /y/, or necessarily /r/ or at the end of a word:

stalk /stok/ : stock /stak/
caught /kot/ : cot /kat/
dawn /don/ : Don /dan/
Claude /klpd/ : clod klad/
law /lo/ : la /la/
paw /po/ : pa /pa/

Various contrasts are made by large groups of speakers of English, but not represented in this study. This omission is based on the feeling that these contrasts are not sufficiently widespread to merit inclusion on a par with the generally prevalent system of vowel contrasts which we are endeavoring to represent here. Some of the more important cases of such additional distinctions will be mentioned in a later section.[2]

There are also cases where two different dialects, even having the same phonemes, may differ in that a certain contrast is maintained in one dialect in invironments of adjacent sounds where the other dialet makes no contrast. The customary distinction in English between /i/ and /e/, as in hid, /hid/ and head /hed/

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[2] Certain examples are interesting not for their prevalence, but only to show the extent to which dialects differ in the phonemic contrasts maintained among vowel nuclei. For instance, pairs like beet and beat, meet and meat, et cetera, which have identical pronunciations for the vast majority of speakers of English, still are phonemically distinct in certain dialects of Scotland. There are even speakers of English who have different vowel nuclei in poll and pole.

obtains also in most dialects before /n/; however many southern midland dialects of American English do not distinguish those phonemes before /n/, so that tin=ten, Lind=lend, mint=meant, since=sense, and clinch=clench.

There is one quite widespread type of distinction in vowels which is not represented in the usual transcription of this study. This seems to be mainly a matter of length.

Examples of such length contrasts (not necessarily to be heard from the same speakers) are given below. The length, elsewhere in this study disregarded, is here written /:/. The members of the pairs given below, which may be distinguished by length, may also be kept distinct by other speakers in other ways.

Do it when you can. /kæn/ (i.e., whenever possible)
Do it when you can. /kae:n/ (sc. fruit)

am	/aem/	bomb	/bam/	notch	/nač/
ham	/hæ:m/	balm	/ba:m/	watch	/wa:č/
gloss	/glos/	logger	/logɨr/		
sauce	/so:s/	auger	/o:gɨr/		

In some dialects of English contrastive length exists where other dialects have a postvocalic /r/.

cod	/kad/	cud	/kʌd/
card	/ka:id/	curd	/kʌ:d/

Length contrasts also occur involving other simple vowels; for more details the reader should consult James Sledd, A Short Introduction to English Grammar (Chicago: Scott Foresman & Co., 1959), pp. 45-54.

Length contrasts are often specially prevalent before /r/ followed by a vowel. A common pattern of contrasts involves pairs such as the following:

nearer	/ni:rɨr/	mirror	/mirɨr/
fairish	/fe:rɨš/	cherish	/čerɨš/
furry	/fʌ:rɨy/	hurry	/hʌrɨy/

The picture is still further complicated by other dialect differences involving nuclei before intervocalic /r/. Thus different American speakers of English may have distinct vowels in the first syllables of all three words, or two pronounced the same, or all three the same in the sets:

Mary merry marry / forum forest laurel

The transcription used in the rest of the present study represents only some of the possible distinctions; this is done in the belief that what is represented is a particularly widespread pattern.

/ir/	shear	beard	nearer	mirror
/er/	share	Baird	fairish	Mary merry
/ær/				marry
/ʌr/	shirr	bird	furry	hurry
/ar/	jar war	bard short	starry warring	sorry laurel warren
/or/	shore	board	sorest	forum
/ur/	sure	Lourdes	mooring	during

/ayr/	shire	Irish
/awr/	sour	Skaüron
/ɔyr/	(coir)	Moira

In addition it is necessary to mention another vowel which constitutes an additional phoneme in some dialects. Even in such dialects, however, it is not found in a large number of words. A person learning to speak English could manage very well without ever using this vowel; ~~I~~its importance for the present study lies in its comparability with certain sounds in Russian.

One of ~~T~~the words most likely to contain this vowel is the adverb just. Many speakers of English pronounce this word so that it is not the same as the adjective just (as in a just man), nor is it the same as gist, or jest. (The tongue is nearer the roof of the mouth than for just, also further back in the mouth than for gist.)

This vowel will be represented in the transcription by /ə/; it is fairly often found in such (in such a case not rhyming with much, itch, etch, or Butch) and in pretty. Some speakers use it in a variety of other words.

One particular set of words likely to contain the phoneme /ə/ are pronunciations, often facetious, of abbreviations not containing a vowel letter, such as Wm. /wəm/, Ph.D. /fəd/.

The classification of vowels according to their formation in the mouth is usually made principally according to two criteria. The first of these is the nearness of the tongue to the roof of the mouth. Vowels are divided by this criteron into high, mid, and low. The high vowels are those with the tongue closest to the roof of the mouth. Of the simple vowel phonemes of English: /i/, /ə/, /u/ are high vowels; /e/ and /ʌ/ are mid vowels, /æ/ and /a/ are low vowels (/o/ varies from low to mid.)

By the second criterion, vowels are classified according to where in the mouth the tongue is closest to the palate. They are called front, central, or back. For most American English: /i/, /e/, /æ/ are front vowels; /ə/, /ʌ/, /a/ are central vowels; /u/, /o/ are back vowels.

	Front	Central	Back
High	i	ə	u
Mid	e	ʌ	o
Low	æ	a	

The back vowels of English are also labial or rounded. (have the lips pursed). Rounding can be an independent criteron for the classification of vowels since other languages have rounded vowels which are not back vowels (such as the German ü) or back vowels which are not rounded (such as the Turkish ı or Vietnamese ư.)

ư
ư
ư

Beside the vowel nuclei already dealt with, other vowel sounds are found in utterances of more than one syllable, for instance in the second syllables of these words:

Phillip
Caleb
aleph
olive
alum
mallet
pallid
Alice
cellist
pollen
talent
island
balance
calleth
colic
Ilig
relish
village
shilling
villa
valley
valor
pillow
value
issue
hostile

or in the first syllables of these:

enough
belong
erase
arrive
mistake
escape
endorse
impose
about
suppose
promote
unite

While some speakers make constrasts between different vowel qualities before the same consonant in certain weak syllables, it is also common not to have any such contrasts. The transcription used here will represent the latter type of speech. In all the weak syllables we will write the phoneme /ɨ/. This symbol represents either a vowel of a generally high-central quality (usually closest to /ə/ of the other vowel phonemes), or it may represent no vowel segment at all, but only the syllabic nature of what are sometimes called syllabic consonants (as in the second syllables of such words as prism, prison, drizzle, blizzard -- transcribed /prizɨm/, /prizɨn/, /drizɨl/, /blizɨrd/). The fundamental characteristic of the phoneme /ɨ/ is the "weak," "reduced", or "obscure" quality of the syllables containing it.

In contrast to /ɨ/, the vowel phonemes treated previously will be referred to as full vowels.

The words in the list

are transcribed in the present system as follows:

filɨp	mælɨt	tælɨnt	kalɨk	vilɨ	pilɨw
keylɨb	pælɨd	aylɨnd	ilɨg	vælɨy	valyɨw
ælɨf	gælɨs	bælɨns	relɨš	vælɨr	išɨw
alɨθ	čelɨst	kolɨθ	vilɨǰ		hastɨl
ælɨm	palɨn		šilɨŋ		

ɨnʌf	ɨreys	mɨsteyk	ɨndors	prɨmowt
bɨloŋ	ɨrayv	ɨskeyp	ɨmpowz	yɨnayt

The transcription represents one obscure vowel, the phoneme /ɨ/, and two obscure-vowel diphthongs, /ɨy/ and /ɨw/.

At this point an important theoretical consideration needs to be introduced. The techniques of linguistics are best suited to dealing with language material that is uniform --- perhaps perfectly suited only to one person speaking in a single style. What we are trying to represent in this study is a general pattern, which will be an approximately valid description for as great a range of types of English as possible. It is quite certain that representation of the reduced syllables by a single obscure-vowel phoneme, as illustrated above, is invalid for many types of English.

Some dialects have a large number of different vowel nuclei in weak syllables, up to at least half as many as are found in syllables with full vowels. If such dialects were the focus of our attention, we would strive to identify the nuclei of reduced syllables with those of the syllables containing full vowels. We would, in fact, say that the weak syllables contained the same full-vowel phonemes with an additional feature of obscurity or reduction. (This feature would be an additional stress phoneme ("weak stress"), another member of the set of phonemes delineated in section 2.3 below.)

It has been the more common approach in recent descriptions of English sounds to employ this alternative treatment. In the present study the analysis involving the inherently obscure vowel /ɨ/ represents occur as /ɨkʌr/ and sucker as /sʌkɨr/. According to the other approach, the distinction (apart from the initial consonant) is considered a matter of different stress patterns: Weak-strong (˘ ´) for occur; strong-weak (´ ˘)for sucker. The vowel sequences are regarded as identical: ʌ̆kʌ́r sʌ́kʌ̆r

Similarly, where we write immix /ɨmiks/, mimics /mimɨks/; distinct /dɨstiŋkt/, twisting /twistɨŋ/, the alternative approach identifies the vowels:

ĭmíks mímĭks
dĭstíŋkt twístĭŋ

and we will write a difference in vowel nuclei rather than in stress to distinguish such pairs as

Lŏuíse Loúĭe's
/lɨwíyz/ /luwɨyz/

¶Some further comment is required about the phonetic quality of /ɨ/ under various conditions. As was mentioned above, the quality of the obscure vowel usually bears a closer resemblance to /ə/ than to any other of the full vowels. The exceptions to this generalization are of two types. The first, already alluded to, covers many instances when /ɨ/ precedes /l/, /n/, or /m/. What is actually pronounced then is a syllabic consonant, and there is no period of vowel sound which is directly comparable to any other vowel phoneme.

muddle	sudden	fathom
/mʌdɨl/	/sʌdɨn/	/fæðɨm/

On the other hand, the obscure-vowel diphthongs, and /ɨ/ itself under certain conditions, come fairly close to some of the other, more frequently occurring vowel nuclei.

/ɨ/	is	close	to	/i/	before	/ŋ/	shilling	/šilɨŋ/
						/š/	relish	/relɨš/
	"	"	"	/ʌ/	at end of word		villa	/vilɨ/
					" start of	"	allow	/ɨlaw/
/ɨr/	"	"	"	/ʌr/			valor	/vælɨr/
/ɨy/	"	"	"	/iy/			valley	/vælɨy/
/ɨw/	"	"	"	/uw/	after	/y/	value	/vælyɨw/
					"	/š/	issue	/išɨw/
					"	/č/	virtue	/vʌrčɨw/
	"	"	"	/ow/	otherwise		pillow	/pilɨw/

(When English is treated as having an additional stress phoneme, the words in question are considered as including the vowel nucleus whose quality the weak syllable approximates, together with the obscurity-producing phoneme of weak stress.)

2.3 Point of Clear Division

The difference between clear and ambiguous syllable division is a significant distinction in the sound of English utterances. In some cases, the division is clearly marked. This is the case, for example, in grey day or below decks --- where the /d/ clearly goes with what follows --- and likewise in grade A or road edge -- where the /d/ clearly belongs to the syllable which precedes. In the ordinary pronunciation of many words, however, there may be consonants which do not belong clearly to either the following or the preceding syllable. This is likely to be true of /d/ in the pronunciation of gradation or codex.

Where there is a clear division at a syllable boundary, this will be represented by leaving a space between letters in the phonemic transcription.

grey day /grey dey/, gradation /greydeyšɨn/, grade A /greyd ey/
below decks /bɨlow deks/, codex /kowdeks/, road edge /rowd eǰ/

The presence or absence of a point of clear syllable division presents certain difficulties for description, in that one way of striving for greater clarity of pronunciation is the introduction of extra points of clear syllable division. Thus /grey dey šɨn/ is commonly heard instead of /greydey šɨn/, when the word is receiving particular attention. Also, there is considerable diversity among speakers as to whether certain items are normally said with clear or ambiguous syllable division. In the examples of the lists below, the ones in the middle column are written without space, since they have the ambiguous type of syllable division in the English speech of many people. There will be speakers, however, who have a clear syllable division in some of these words -- this is perhaps possible for any of the words in the middle column. A given person reading these lists may have to discard some of the examples as not illustrating the point they are supposed to, but generally some of the rows will give valid examples of the same consonant in an ambiguous position as well as belonging clearly with what follows or with what precedes.

see-saw /siy so/	Esau /iyso/	peace offer /piys ofɨr/
showcase /šow keys/	locate /lowkeyt/	pack ice /pæk.ays/
tie racks /tay ræks/	Pyrex /payreks/	fire ax /fayr æks/
pay line /pey layn/	saline /seylayn/	sail edge /seyl eǰ/
mess kit /mes kit/	Musqat /mʌskæt/	musk ox /mʌsk aks/
door mat /dor mæt/	torment (noun) /torment/	warm-up /worm ʌp/
back track /bæk træk/	electron /ɨlektran/	tract rack /trækt ræk/

The point of clear syllable division is also often referred to as "open transition", "open juncture", or "plus juncture". It is, in the present study, considered a phoneme of English, and, when it alone is being cited between slant lines, it will be represented as /_/.

The examples which have been given would suggest, as is in fact the case, that /_/ usually occurs between words or between important parts of a word. There are many exceptions to this, however. Some speakers of English have /_/ within undecomposable words like Plato, which instead of /pleytow/ or /pleytiw/ is often pronounced /pley tow/ (just as though one were talking of a "play toe"). Conversely, many speakers rhyme these pairs of words, which for others contrast by presence vs. absence of /_/.

slowly /slow liy/	holy /howliy/
eyelet /ay lɨt/	islet /aylɨt/
soreness /sor nɨs/	cornice /kornɨs/

(There are, of course, other ways in which the words can fail to rhyme, besides differing as to occurrence of /_ /.)

The effect of a clear demarcation point in the stream of speech produced by the phoneme /_ / arises from several factors; the most important of these are extra length in the sounds which precede /_ / and extra effort in the sounds which follow it.

Whatever comes before /_ / is lengthened in comparison with the duration it would have when no /_/ follows it. This is most noticeable when the preceding phoneme is a resonant: the vowel /o/ or /a/; a diphthong containing /w/ or /y/; or one of the consonants /r/, /l/, /m/, or /n/. With any of these coming before /_ / a drawling effect extends over the vowel of the preceding syllable and the consonant phonemes, if any, between the vowel and the /_ /. With other sounds before it, the point of clear division produces a less marked effect. The least influence is that on preceding /p/, /t/, or /k/. These stops are held only slightly longer in this situation than elsewhere.

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It is possible to have the same voiceless stop on either side of /_ _/. Phonetically, three different lengths of stop are heard in the following sets:

nitrate /naytreyt/	night rate /nayt reyt/	freight train /freyt treyn/
cyclone /sayklown/	work ∧ load / ∨ lowd/ vark	work ∧ clothes / ∨ klowðz/ wark
Alpine /ælpayn/	scalp itch č /skælp ič/	kelp patch /kelp pæč/

l

With regard to the phoneme that follows it, the effects of /_ / may be succinctly summarized as involving greater force in sound production, compared to the case of the same phoneme not preceded by /_ /.

[illegible]

Here it is /p/, /t/, and /k/ that are most clearly marked, as they are followed by a puff of breath. Also, if one of them is followed by any of /r/, /l̥/, or /w/, this latter sound will in turn be voiceless. Note the following pairs:

dacron /deykran/	tea cream /tiy kriym/
duplex /duwpleks/	two-place /tuw pleys/
loquat /lowkwət/	Snow Queen /snow kwiyn/

¶ Other important phenomena are also associated with the greater effort marking the sound following /_ /. Vowels may be preceded by a glottal closure (this is the sound that almost inevitably occurs in the middle of "uh-uh" and "oh-oh").

After /_/, /l/ does not have the velarized[2] or "dark" quality of other medial /l/'s. Similarly, /r/ is said with the tongue closer to the roof of the mouth than is the case with other medial /4/'s.

ion /ayan/	tie-in /tay in/
pylon /paylan/	tie line /tay layn/
Pyrex /payreks/	tie racks /tay ræks/
orlon /orlan/	warlock /wor lak/

Other consonants show other effects connected with the sharp onset of the following syllable; these will not be discussed here.

Another way of stating the influence of /_/ on adjacent sounds is to say that sounds following /_/ are like those at the beginnings of whole utterances, while sounds preceding /_/ are like those at the ends of whole utterances. This is a helpful point of view in cases like long bow /loŋ bow/ or phase shift /feyz šift/ where the corresponding sequence (/ŋb/ or /zš/) without /_/ is either rare or impossible. This alternative formulation of the effects of /_/ is likewise of use in cases where a division can be made at more than one point, as in comparing /k str/ in back strap, ?ks tr/ in fox trot ?faks trat/, and ?kst r/ in text reading / tekst readin/, with /kstr/ in extra dextrose /ekstrɨ/ /dekstrows/.

It is also worth noting that many immediately adjacent combinations of souns (without intervening /_/) involve anticipation in the first sound of the position for saying the second, or likeness of the second to that of the first to a degree not al all characteristic of the same sequence of sounds separated by /_/.

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[2] i.e., with the back of the tongue somewhat raised toward the velum (soft palate).

2.4 Stress

The differences between full-vowel nuclei and reduced-vowel nuclei (2.2) create marked differences in the prominence of syllables in English. There are also other differences in prominence. Words of two syllables with full vowels in each syllable may differ as to which syllable is the more prominent. Thus the following words usually carry maximum prominence on the first syllable when they are nouns, but on the second when they are verbs.

torment	/torment/
augment	/ogment/
insult	/insʌlt/
incense	/insens/

A phoneme of stress or accent distinguishes these pairs of words. We will write this as an acute accent (´) over the vowel in the more prominent syllable:

/tórment/ (noun) : /tormént/ (verb)

When, apart from any word in which it occurs, this phoneme is to be mentioned by itself, it will be written /q́/.*

Except for related nouns and verbs, it is difficult to find pairs of words with no differences except the position of the stress phoneme. There are some pairs with only slight further differences such as:

Hermes	Burmese
/hʌ́rmiyz/	/bʌrmíyz/ [or /bʌrmíys/]

---

*In this work, whenever a stress phoneme is cited, it is, for convenience, written over a q; this also permits abstracting absence of a stress phoneme — also called weak stress — as /q/ with no mark over the q.

Differences as to which full vowel in a word occurs with the stress phoneme /q́/ are also found in words with more syllables:

/q́/

~~A~~ancestor /ǽnsestɨr/	ancestral /ænséstrɨl/
Hecate /hékɨtiy/	legatee /legɨtíy/
regulator /régyɨleytɨr/	regulation /regyɨléysɨn/
capitalize /kǽpɨtɨlayz/	Capitolese /kæpɨtɨlíyz/

When a word with only a single full vowel is cited by itself, the full vowel is considered as occurring with /q́/.

/q́/

bend /bénd/	append /ɨpénd/	
mission /míšɨn/	addition /ɨdíšɨn/	
regular /régyɨlɨr/	particular /pɨrtíkyɨlɨr/	
enviable /énvɨyɨbil/	irrevalency /ɨrélɨvɨnsɨy/	
practicableness /prǽktɨkɨbɨlnɨs/		imaginativeness /ɨmǽǰɨnɨtɨvnɨs/

¶ Consideration has been given so far only to the stress in single words which were not divided by an occurrence of /_ /. In examining larger groupings which do include /_/, additional stress differences can be observed. Notice the differences as to which word is most prominent in these sets.

course materials   Christmas present
coarse materials   Christmas Present
                        (Dickens' Ghost of Christmas Present)

Short connected groups of words can be found with the principal emphasis in any position; e.g. on the first, middle, or last word in a group of three.

wait there then
late spring time
wait three days

meeting people lately
German Spanish teacher
Mary Agnes Johnson

In such cases as those above, the word which is most prominent will be marked as containing another stress phoneme /°/, the phrase emphasis. Any word cited by itself carries this phrase emphasis.* 5 In close, connected, groups of words, only one word has the phrase emphasis, the others usually carry the stress phoneme /q́/.

late spring time	/léyt °spríŋ táym/
sand content	/°sǽnd kántent/
articulate pedagogy	/artíkyɨlɨt °pédɨgowǰɨy/
dictionary pronunciation	/°díkšɨnerɨy prɨnə̂nsɨyéyšɨn/

¶ Groupings including / _ / may exhibit contrasts between having and not having /q́/ on parts not carrying /°/.

Notice the following sets, in which a difference in stress is found in the speech of many.

°cóld pláte
°hót plate

°cát cáll (by or to cats)
°cát call (jeering)

lóng °ísland
Long °Ísland

gó °búy it
go °bý it

°éye wórd
°bý-word

°wéigh státion
°wáy station

shórt °círcuit (literal)
short °círcuit (electrical)

bríng úp the °squáshes
bring úp the °chíldren

For many dialects this difference is quite important in distinguishing types of compound words.

¶ 5 * The symbol (°) is written approximately at the onset of the most prominent syllable: Michigan /°míšɨgɨn/, Wisconsin /wis°kánsɨn/, Illinois /ilɨ°nóy/. In this treatmentt /°/ is considered as being added to /q́/.

2.5 Phrasing

Fairly long stretches of speech are broken up into shorter groups in various ways. Sometimes the way this is done is important to the sense. Consider, for instance:

wármed-over / múshrooms
wármed / over chárcoal

or the possible contrast between:

túrned-on / láthes
túrned / on láthes

Description of the sound system of a language must necessarily take account of such grouping of words. In the phonemic transcription used here, this is done by writing a symbol at the ends of those coherent groups which are spoken as units. These groups are called phrases.

¶ Most phrases contain a single phrase emphasis (/°/).

¶ A great many features of timing and rhythm contribute to the impression of coherence that a phrase produces.

¶ Phrases may end in three distinctively different ways.

One of these involves a rapid fading away of the voice, often while the pitch level is drifting downward. (This ending is characteristic of normal declarative statements.) It will be written /↓/.

I have to get °hóme.↓

Another way of ending a phrase is by a rise in pitch during the last part of the final syllable. This will be written /↑/. (It frequently occurs at the ends of questions, and also, reversing the generally falling pitch trend, at the end of statements which are made with strong qualification.)

Will I get hóme?↑

You know I can't stay. I have to get°hóme.↑

The third mode of phrase termination involves the rhythmic and dynamic features which indicate the end of a phrase, especially a prolongation of the final syllable, but lacks the special features of either /↓/ or /↑/. (This is the way a phrase usually ends when something further is to follow immediately.) It will be written /|/.

I have to get°hóme, | it's gétting°láte. ↓

When the phrase emphasis occurs some distance ahead of /|/, it is noticable that the pitch before the end of the phrase is sustained about level, in contrast to the pitch effects of /↓/ and /↑/.

I have to get°hóme right awáy, | it's°láte. ↓

The three phrase endings /↓/, /↑/, and /|/ are known as terminals.

2.6 Pitch

There is no general agreement among those who have studied the subject as to how a phonemic analysis of the pitch phenomena of English is to be made--there is not even universal agreement that an analysis is possible.

The approach to the analysis of the speech melody of English which will be used in this work shown the most promise assumes that there are four distinct levels of pitch. The occurrence of one or another of these at certain points in any utterance is considered sufficient to explain the differences in tune between different sentences.

Phrases with essentially level pitch form the most plausible basis for assuming that a certain small number of pitch levels are the relevant units for describing English pitch phenomena.

Level phrases often occur as parenthetical remarks, and especially as indications of who the speaker of a quotation was, or who is the person addressed. The following examples are likely to be read in a way that shows level stretches at differing heights of pitch:

High: "Are you there?" he called back.

Medium: "I think so," she replied.

Low: "Don't touch it!" he warned me.

High: You going, Evelyn?

Medium: Good morning, Mrs. Reynolds.

Low: Stop squirming, Bobby Murdock!

An even higher level is likely to be found at the end of questions showing agitation:

High: Will that be all right, Bobby?

Very high: Are you sure you're all right, Bobby?

The pitch-level phonemes will be indicated by superscript numbers: low, /^{1}/; medium, /^{2}/; high, /^{3}/; very high, /^{4}/. The numbers are written before the first syllable to which they apply, or before the terminal.

¶ It is not necessary to specify the pitches on every syllable in an utterance. Only at certain points in a phrase can significantly different levels of pitch occur.

Two such points are found in every phrase: at the phrase emphasis ∧ and at the terminal. Whenever the phrase emphasis ∧ is not at the beginning of the phrase, the pitch at the beginning is also significant.

Contrast at the phrase emphasis ∧

^{2}Your $^{3\circ}$lúnch is réady.^{2}↑

^{2}Your $^{2\circ}$lúnch is réady,^{2}↑

The first of these might be a reminder; the second could appear as one item in a list of reasons for not doing something.

Contrast at the terminal:

^{2}Lét's ^{3}hópe so.^{1} ↓

^{2}Lét's ^{3}hópe so.^{2} ↓

The second shows a certain amount of doubt about the outcome.

Contrast at the beginning of the phrase:

2Yóu 3wórk hére.^{1} ↓

^{3}Yóu 3wórk hére.^{1} ↓

The first is an observation; the second is a direction.

¶ It is also possible for the pitch to show a jump somewhere between the beginning and primary stress of a phrase; this introduces an extra point of significant pitch contrast.

^{2}We've wáited ^{3}twénty ^{3}mínutes.^{1} ↓

This extra pitch-point can occur only at a syllable with stress /ê/.**

Less common is the occurrence of significant pitch-points between the phrase emphasis and the terminal, such as are described by James Sledd in "Superfixes and Intonation Patterns," Litera III (1956).

The pitch phonemes which occur in a phrase, together with the terminal at the end of it, are called an intonation pattern. Thus, the usual way of citing statements in English has what we call the intonation pattern /231↓/ (whether or not the /2/ is actually present):

^{2}He'll fínish $^{3\circ}$láter.^{1}↓
[← $^{3\circ}$Jóhn wás.^{1}↓

Moderately insistent questions of the type answerable by "yes" or "no" have a pattern which we will write /233↑/.

^{2}Did you gét my $^{3\circ}$létter?^{3}↑
$^{3\circ}$Cán we?^{3}↑

Similarly, intonation patterns with an extra pitch point are represented by four numerals and a terminal, as /2321↓/ for

^{2}I ^{3}wánt to go $^{2\circ}$hóme.^{1}↓

spoken as somewhat of a pronouncement.

END--Chapter 2

3 The Phonemes of Russian

3.1 Consonant and Vowel Phonemes

¶ There are thirty-five consonant sounds in Russian which clearly are phonemically distinct. Symbols representing these phonemes and examples for each are given below, together with three other sets of examples in parentheses; these others are to be explained subsequently, since their linguistic status is not quite as clear and requires further discussion.

no consonant	ус	whisker	су	sou
/p/	пуд	36 lbs.	суп	soup
/b/	бут	rubble		
/m/	муз	of the muses (gen.pl.)	ум	mind
/t/	тут	here		
/d/	г дук	of the arcs (gen.pl.)		
/n/	нуд	of the bores (gen.pl.)	лун	of the moons (gen.pl.)
/k/	к кус	morsel	стук ~~сфук~~	[illegible] knock
/g/	губ гуд	of the lips (gen.pl.)		
/f/	фут	12 inches	пуф	puff([illegible]
/v/	ВУЗ	college (Высшее Учебное Заведение)		
/s/	суд	lawcourt	ус	whisker
/z/	зуд	itch		
/x/	худ	thin (short form masc.)	сух	dry (short form masc.)
[Greek gamma →] (/γ/	го́споди	Heavens!)		
/š/	шут	jester	сушь	dryness
/ž/	жук	beetle		

/c/	цуг	tandem	куц	curtailed (short form masc.)
/l/	лук	onion	стул	chair
/r/	руд	of the ores (gen. pl.)	дур	of the foolish women (gen.pl.)
/y/	ют	quarterdeck	суй	poke (imperfective imperative)
/p̦/	писк	chirp	глубь	the deep
/b̦/	бис	encore!		
/m̦/	мисс	Miss	семь	seven
/ț/	тис	yew	суть	essence
/d̦/	диск	disc		
/n̦/	низ	bottom	сунь	take a poke (perfective imperative)
/k̦/	кис	turned sour (past masc.)		
([g̦]	гид	guide)		
/f̦/	фиск	exchequer	Руфь	Ruth
/v̦/	вис	hung (past masc.)		
/ș/	сиз	dove grey (short form masc.)	сузь	make narrow (perfective imperative)
/z̦/	зим	of the winters (gen. pl.)		
([x̦]	хи́тро	sly (short form neut.))		

/ș̌,/	щит	shield	пущ	of the wilderness tracts (gen. pl.)
/ž̦,/	жжёт	burns (3d sing. pres.)		
/č/	чист	clean (short form masc.)	мучь	torture (imperfective imperative)
/l̦/	лис	of the foxes (gen. pl.)	нуль	zero
/r̦/	рис	rice	дурь	folly

Russian has five vowel phonemes, illustrated by the examples following:

/i/	чин	member	ты	you (fam.)	и	and	си	B (musical scale)
/e/	чем	with what? (instr.)	Т (тэ)	letter Т	эх!	well!	все	all
/a/	чан	vat	та	that (nom. sing. fem.)	ах!	ah!	вся	whole (nom. sing. fem.)
/o/	о чём	about what?	то	that (nom. sing. neut.)	ох!	oh!	всё	whole (nom. sing. neut.)
/u/	чум	skin tent	ту	that (acc. sing. fem.)	ух!	ouch!	всю	whole (acc. sing. fem.)

It is held by some linguists that the sound usually represented by bl in Russian is a distinct phoneme from that usually represented by И. One argument for this is the greater phonetic difference between these sounds than can otherwise be found among variants of a Russian vowel phoneme. There are also peripheral contrasts, as between the names of the letters И and bl (when not called "ерЫ") and the words и́кание "use of an [i]-sound" and ы́кание "use of an bl-sound" In the present study, such distinctions are regarded as being outside the actual functioning system of the Russian language. The position taken here is that there is a single phoneme /i/, and that bl represents the variety of that fundamental sound found after plain ("hard" or non-palatalized) consonants.

3. 2. Palatalization Consonants

The most striking feature of the Russian consonants, as a system, is the existence of palatalized consonants -- those represented with the mark (,) beneath the letter in the lists, as p̦ b̦ m̦ ț etc. In contrast to these, those represented by the same letters without the mark are called plain. (The palatalized consonants have the tongue arched so as to bring the blade close to the palate, much the way it is for the pronunciation of English /y/ or else achieve a similar effect by having the tip of the tongue behind the lower front teeth.)

There are thirteen pairs of consonant phonemes in Russian which differ in that one has the plain pronunciation but the other has the palatalized pronunciation while otherwise the two have substantially the same type of sound production and the same classification by positions of lips and tongue.

/p/ - /p̦/	глуп	foolish (short form masc.)	глубь	the deep
/b/ - /b̦/	гро́ба	of the grave (gen.)	гро́бя	ruining (gerund)
/m/ - /m̦/	знако́м	acquainted (short form masc.)	знако́мь	acquaint (imperfective imperative)
/t/ - /ț/	суд	law court	суть	essence
/d/ - /d̦/	на́до	it is necessary	На́дя	(girl's name) Hope (hypochoristic) (diminutive)
/n/ - /n̦/	вон	yonder	вонь	stench
/k/ - /k̦/	ико́рный	of caviar (adj.)	ликёрный	of liqueur (adj.)
/f/ - /f̦/	нов	new	новь	virgin soil

Other common symbols to indicate palatalization are: (,) p̦ ț (,) p̡ t̡ (ᵇ) pᵇ tᵇ (´) p´ t´ (ʾ) pʾ tʾ (j) pj tj (˙) p˙ t˙.

/v/ - /v̦/	пра́во	indeed	пра́вя	ruling (gerund)
/s/ - /ș/	ос	of wasps (gen. pl.)	ось	axle
/z/ - /z̦/	ла́за	of the man-hole (gen.)	ла́зя	climbing (gerund)
/l/ - /l̦/	мол	breakwater	моль	clothesmoth
/r/ - /r̦/	дур	of the foolish women (gen.pl.)	дурь	folly

<Although from the linguistic point of view it is the difference between plain consonants and palatalized consonants which serves to distinguish words in Russian, it is to be kept in mind that the distinction between a plain consonant and a palatalized one, when followed by a vowel, is made in Russian orthography by writing different vowel letters.

мыл /mil/ washed (past masc.)	мал /mal/ small (short form masc.)	мол /mol/ breakwater	мул /mul/ mule
мил /m̦il/ nice (short form masc.)	мял /m̦al/ kneaded (past masc.)	мёл /m̦ol/ swept (past masc.)	мюд /m̦ut/ (Междунаро́дный Юношеский День) International Youth Day

Occasionally plain consonants before /e/ are distinguished by writing the letter (э), as in мэр /mer/ 'mayor' vs. мер /m̦er/ 'of the measures' (gen. pl.); usually, however, no difference is made in the spelling, as for instance between посте́ль 'bed' with /ț/ and пасте́ль 'pastel' with /t/. Almost all words in which a plain consonant, from the list of paired consonants given above, occurs before /e/ are recent borrowings into Russian from foreign languages or are abbreviation forms like НЭП /nep/ 'New Economic Policy' (Новая Экономическая Политика.)>[*]

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[*] Special brackets < > will be used to enclose comments at various points about the relations between writing and pronunciation.

The situation in Russian is such that it is not entirely clear that /k̦/, /g̦/, and /x̦/ are distinct sounds on a par with the other palatalized consonant phonemes. In general [k̦], [g̦], and [x̦] occur before the vowel phonemes /i/ (и) and /e/ ($\overset{e}{\text{э}}$), and not elsewhere; conversely, the plain sounds [k], [g], and [x] do not generally occur before /i/ and /e/. In other cases involving a pair of consonants, one plain and one palatalized, such as /m/ and /m̦/, each member of the pair will be found to occur before any of the five vowel phonemes, and also final and before other consonants. As for example:

m	мыл	мэр	мал	мол	мул	всем	to all (dative)
m̦	мил	мер	мял	мёл	мюд	семь	seven
	i	e	a	o	u	Final	

However, the prevailing pattern for [k] [g] [x] and [k̦] [g̦] [x̦] has only one of each pair occurring before a given vowel phoneme; in particular this includes different inflected forms of the same stem:

	i	e	a	o	u	Final
k			как (how)	кот (tomcat)	кур (hen; gen. pl.)	стук (knock)
			строка́ (ruled line)	строко́й (instr.)	строку́ (acc.)	строк (gen.pl.)
k̦	строки́ (gen.sing.)	строке́ (dat.sing.)				
	кит (whale)	кет of the dog-salmon (gen.pl.)				
g			гад (reptile)	год (year)	гуд (droning)	
			слуга́ (servant)	слуго́й (instr.)	слугу́ (acc.)	
g̦	слуги́ (gen.sing.)	слуге́ (dat. sing.)				
	гид (guide)	ген (gene)				

	i	e	a	o	u	Final
x			хан khan	ход passage	худ thin (short masc.) form	сух dry (short form masc.)
			блоха́ flea	блохо́й (instr.)	блоху́ (acc.)	блох (gen.pl.
x̦	блохи́ (gen.) хи́тро sly (short form neut.)	блохе́ (dat.) хе́рес sherry				

In the case of [k] and [k̦] there are sufficient exceptions to the general pattern to indicate clearly that /k/ and /k̦/ are separate phonemes:

	i	e	a	o	u	
k	акы́н bard (Central Asian)	кэб (or кеб) cab	как	кот	кур	
k̦	кит	кет	Кя́хта (Mongolian city)	ткёт weaves	маникю́р	manicure

Also /k̦y/ occurs in the name Лукьян 'Lucian', but /ky/ in к я́мам 'to the pits'. (Final /k̦/ does not occur.)

The deviations involving the other two pairs are of a much more marginal sort. For [x] and [x̦] no reliable examples can be cited of either in an exceptional position, and for [g] and [g̦] only some rather questionable instances.[*]

In the prevalent pronunciation of Russian, [x] and [x̦] have limited possibilities of occurrence; each occurs only next to certain sounds and not next to others. This is a case of complementary distribution.[**] If two similar sounds are in complementary distribution, they constitute one phoneme; if not, they must belong to two different phonemes.

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[*] e. g. [g] in ГЭС 'hydro-electric station' (from гидроэлектроста́нция) or in the pronunciation of the name of the letter Г as гэ;

[g̦] in the word гюйс 'jack' (flown at the bow of a ship), or in the pronunciation of foreign names, as Викто́р Гюго́ 'Victor Hugo'.

[**] A further example of complementary distribution involves the variants of the phoneme /i/, as mentioned on p. 44 of this MS. The ы variants occur only following plain consonamts, otherwise the и variants are found. ⟨The ы variants are written with the letter И after Ш and Ж (and in some cases after Ц.⟩

The two sounds [g] and [g̦] are generally also in complementary distribution, it would appear, even if they may not quite be so for some speakers.

The distribution of [k] and [k̦] is so nearly complementary that for most practical purposes the behavior of the three sets need not be distinguished.

In addition to the plain and palatalized consonants discussed previously, there are three other consonant phonemes with a pronunciation of the plain type and four with a palatal quality.

/š/	шей	sew (imperfective imperative)	/š,/	щей	of the cabbage soup (gen. pl. tantum)
	шок	shock		щёк	of the cheeks (gen. pl.)
/ž/	ножей	of the knives	/ž,/	дождей	of the rains (gen. pl.)
	жёнка	"wifey"		жжёнка	hot punch
/c/	цель	goal	/č/	чей	whose
	цок	click!		чёт	even number
no consonant	эй	look here!	/y/	ей	her
	от	from		йот	(letter) J

Compared to /š/and /ž/, /ș̌/ and /ž̦/are long. (In place of the simple long sounds, some speakers pronounce /š,/ [ș̌č̦ș̌] and /ž,/ [ž̦ǯ̦ž̦]. Some Russians do not have a phoneme /ž̦,/, but rather a long sound without palatal quality, which is treated in this study as /žž/-- the plain sound /ž/ doubled.

The mark (,) is written to the right of the letters in the phonemic symbols /š,/ and /ž,/ both to suggest the length of these sounds and as a reminder that they do not bear as direct a relationship to the corresponding plain consonants as do the sounds represented by letters with the mark (,) underneath.

The phonemes /š,/, /ž,/, /č/, and /y/ will be called palatal but not palatalized consonants.

The choice of vowel letter following ш, щ, ж, ц, ч is conventional, and differences in spelling such as the following do not affect the pronunciation:

цыкать	/cíkaţ/	to hush	цикл	/cikl/	cycle
шов	/šof/	seam	шёл	/šol/	went (past masc.)
журй	/žuŗí/	rebuke (imperfective imperative)	жюрй	/žuŗí/	umpire

There is no regular spelling for /ž,/; the most common are зж (е́зжу, поезжа́й) and жж (жжёт, дро́жжи); жд is used only in the root meaning 'rain' (дождли́вый). For /y/ at the beginning of words й is unusual, the regular way here and after a vowel being to use the letters е, я, ё, ю —which after most consonant letters indicate the palatalization of the consonant. After a consonant, /y/ is indicated by the spellings ьи, ье, ья, ьё, ью. Except in this circumstance, where it indicates /y/ before a vowel, the letter ь following ж, ч, ш, щ has no significance for pronunciation (ць is virtually nonexist~~a~~ent):

рожь	/roš/	rye	нож	/noš/	knife
дашь	/daš/	you'll give	наш	/naš/	our
печь	/p̧eč/	to bake	меч	/m̧eč/	sword
вещь	/v̧eš,/	thing	клещ	/kļeš,/	tick

After other consonant letters, ь indicates that the previous consonant is palatalized. When one palatalized consonant precedes another in certain clusters, ь may or may not appear after the first.

28 /șț/	кра́сьте	paint (pl. imperfective imperative)	ка́сте	to the caste (dat.)

The palatalization of /l̦/, however, is always shown before another palatalized consonant.

вскользь offhand.)

3.3 Voicing of Consonants

Russian has twenty-two consonants which can be grouped in pairs of which one is voiceless and the other voiced:

/p/ - /b/	пой	sing (imperfective imperative)	бой	struggle
/p̦/ - /b̦/	пей	drink (imperfective imperative)	бей	hit (imperfective imperative)
/t/ - /d/	там	there	дам	I'll give
/ț/ - /d̦/	тень	shadow	день	day
/k/ - /g/	кот	tomcat	год	year
/f/ - /v/	фон	background	вон	yonder
/f̦/ - /v̦/	фей	of the fays (gen. pl.)	вей	twist (imperfective imperative)
/s/ - /z/	сад	garden	зад	rear
/ș/ - /z̦/	сядь	sit down (perfective imperative)	зять	son-in-law

/š/ - /ž/	шест	pole	жест	gesture
/š,/ - /ž,/	счёт ⇓	calculation	жжёт	burns (3rd sing. pres.).

Some speakers of Russian have another phoneme /γ/ which is voiced and forms a pair with /x/: /x/ - /γ/ (i.e. the /γ/ differs from /x/ only in being voiced). There is some variation as to what words will be pronounced with /γ/ even among those speakers who have this as a distinctive sound, but it is likely to be found in:

Greek γ gamma

when	Heavens!	I swear!	bookkeeper
когда́	го́споди	ей-бо́гу	бухга́лтер

The pair /k̦/ - /g/ кит 'whale' гид 'guide' could equally well be listed above. Since [g] and [g̦] are being treated here as variants of a single phoneme /g/, this one phoneme is the voiced counterpart to both /k/ and /k̦/.

The voiced members of the voiceless - voiced pairs do not occur at the ends of utterances in standard Russian, except in especially distinct pronunciation. Ordinarily, then, in the following pairs of words the same final sound is used in each member of the pair.

/p/	сноп	sheaf	сноб	snob
/p̦/	сыпь	a rash	зыбь	sea swell
/t/	гот	Goth	год	year
/ț/	пять	five	пядь	strand
/k/	лук	onion	луг	meadow
/f/	пуф	puff	нов	new (short form masc.)
/f̦/	Руфь	Ruth	кровь	blood

⇓ Some speakers of standard Russian have different consonant beginnings to such words as счёт [ș̌țș̌ot] and щётка [ș̌:otkə] (long [ș̌]). This means that there are dialects in which only щётка 'brush', and not счёт, contains a voiceless sound corresponding to the voiced /ž,/ in жжёт. In the sound system of such speakers of Russian, words like счёт with [ș̌țș̌] require a different analysis in terms of the phonemes presented above--presumably as /š,č/--but such a contrast might perhaps necessitate setting up a slightly different system of phonemes for such speakers.

/s/	ус	whisker	уз	of the ties (gen.pl.)
/ș/	гусь	goose	сузь	make narrow (imperfectiv imperative)
/š/	наш	our	нож	knife
/š,/	вещь	thing	дождь	rain
(/x/	мох	moss	Бог	God

if /γ/ is said in Бóга, Бóгу, etc.)

⟨At the ends of utterances, each of the sounds listed above has at least two possible spellings, depending on whether a voiceless or a voiced sound occurs in related forms before vowels, before the resonant consonants /m/, /m̦/, /n/, /n̦/, /r/, /r̦/ and /y/, or before /v/ and /v̦/.⟩

The same situation prevails when any of twelve phonemes of the above list occurs before another voiceless sound. On the other hand, before the phonemes /b/, /b̦/, /d/, /d̦/, /g/, /z/, /z̦/, and /ž/ only voiced sounds occur.⟨ These may be spelled, however, with the letters usually used to spell voiceless sounds.⟩

/d/	óтзыв	answer	/d̦/	женúтьба	marriage
/g/	тáкже	likewise			
/v/	афгáнец	Afghan (person)			
/z/	асбéст	asbestos	/z̦/	прóсьба	request
/ž/	волшбá	sorcery	/ž,/	вещбá	prophecy
/γ/	сверхдáльный	ultra-remote			
	двухзáльный	two-room			

The same rule about combinations of sounds holds regarding the end of one word and the beginning of the next, when they are pronounced as part of a single closely connected utterance.[12]

/b/ Проко́п Заха́рович

/b̦/ сыпь же scatter them!

/v̦/ Руфь Бори́совна

When immediately preceding one of the phonemes /b/, /b̦/, /d/, /d̦/, /g/, /z/, /z̦/, /ž/, /ž,/, the phonemes /c/ and /č/ are also voiced. For /c/ and /č/, however, voicing is never distinctive. This phenomenon usually occurs at the boundary between two words, but in a few instances the voiced variety of /c/ or /č/ occurs inside a word.

/c/ Франц Дави́дович оте́ц-ба́тюшка Шпи́цберген
пять тысяч две́сти 5,200 алчба́ greed

The Russian phonemes /m/, /n/, /l/, /r/, /m̦/, /n̦/, /l̦/, /r̦/, are all usually voiced, but in certain circumstances the voicelessness of an accompanying sound will extend to one of these as well. The most notable instance of this is at the end of a word, following a voiceless consonant.

мокр	вепрь	смысл	мысль	песнь	косм
wet (short form masc.).	wild boar	sense	thought	chant	of the manes (gen.pl.)

The presence of a voiceless /r/ in syllables ending in /rš/ is also usual:

морж	ёрш
walrus	wire brush

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[12] In abbreviation compounds there are sometimes exceptions regarding both voiced consonants before voiceless consonants and the reverse.

обком /òb kóm / (областно́й комите́т)
(District Committee of the communist party)

госбанк /gòs bánk/ (госуда́рственный ба́нк)
(State Bank)

3.4 Classification of Consonants.

The Russian consonants can be classified according to the way the sounds are made, as the consonants of English were in the second chapter.

Stops: /p/ /b/ /p̦/ /b̦/
/t/ /d/ /ț/ /d̦/
/k/ /g/ /k̦/ ([g̦])

Affricates: /c/ /č/

Fricatives: /f/ /v/ /f̦/ /v̦/

/s/ /z/ /ș/ /z̦/

/š/ /ž/ /š,/ /ž,/

/x/ (/γ/) ([x̦])

Resonants: /m/ /m̦/ /n/ /n̦/

/r/ /r̦/ /l/ /l̦/ /y/

As in English, the nasals have the same position as certain of the stops.

/p/, /b/ - /m/ /p̦/, /b̦/ - /m̦/ /t/, /d/ - /n/ /ț/, /d̦/ -/n̦/

The grouping of the Russian consonants according to the parts of the mouth involved in their formation is as follows:

Lips
Bilabial: /p/ /b/ /m/ /p̦/ /b̦/ /m̦/
Labiodental: /f/ /v/ /f̦/ /v̦/

Tongue near Teeth
Dental[12] (touching teeth): /t/ /d/ /n/ /ț/ /d̦/ /n̦/ /l/ /l̦/
Alveolar: /c/ /s/ /z/ /ș/ /z̦/ /r/ /r̦/

Tongue near Palate: /š/ /ž/ /č/ /š,/ /ž,/ /y/

Back of Tongue
Back Palatal: /k̦/ [g̦] [x̦]
Velar: /k/ /g/ /x/ (/γ/)

(Lateral: /l/ /l̦/ Trilled: /r/ /r̦/)

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[12] /ț/ /d̦/ /n̦/ /l̦/ are alveolar rather than dental for those speakers who make palatalized consonants with the tip of the tongue behind the lower teeth.

3.5

Vowels:

The pronunciation of the vowel phonemes of Russian varies markedly according to whether the adjacent consonants are plain or palatalized. If the consonant next to a vowel is palatalized or palatal, the effect produced by the position of the tongue near the palate extends to the vowel. The vowel, especially between two palatalized consonants, has a more high and front pronunciation than when pronounced by itself.

Examples are given below of each of the vowel phonemes between consonants: (a) two plain, (b) a palatalized and a plain, (c) a plain and a palatalized, (d) two palatalized. In discussions to follow, the symbol C stands for any plain consonant and C̦ stands for any palatalized or palatal consonant. The meaning of both symbols will also be extended slightly later in this section.

C - C	C̦ - C	C - C̦	C̦ - C̦
быт	бит	быть	бить
state of life	is beaten (short form masc. p.p.)	to be	to beat
цеп	слеп	цепь	степь
flail	blind (short form masc.)	chain	steppe
мат	мят	мать	мять
checkmate	is rumpled (short form masc. p.p.)	mother	to rumple
о вóз	овёс	авóсь	вёсел
against the cart	oats	mayhap	of the oars (gen. pl.)
лун	дюн	дунь	нюнь
of the moons (gen. pl.)	of the dunes (gen. pl.)	puff (perfective imperative)	whimper (imperfective imperative)

Not having any consonant at all after a vowel affects the pronunciation of the vowel in much the same way as the presence of a plain consonant would. Before vowels other than /i/, absence of a consonant similarly resembles presence of a plain consonant as far as affecting the pronunciation of the vowel, but before /i/ the effect of no consonant is similar to that of a palatalized consonant.

C - C	C̦ - C
мы	и
э	все
а	вся
о	всё
у	всю

The effect of a preceding consonant on the phoneme /i/ is greater than the effect of what follows. For the other vowel phonemes, the reverse is the case, the influence of the following consonant is more important. ⟨This is in spite of the fact that the letters with which the vowels are spelled -- у and ю, о and ё, а and я, э [when written] and е -- indicate the nature of the preceding consonant.⟩

The consonants with palatal quality which are not members of a plain/ /palatalized pair, viz. /č/, /š,/, /ž,/, /y/, may have a somewhat less pronounced effect on the adjacent vowel than the palatalized consonants do.

C̦ - C̦

чи́ще	cleaner		
ей	her	щей	of cabbage soup(gen.pl.tantum)
я́щик	box	поезжа́й	ride (imperative)
		щёчный	buccal
чуй	feel (imperfective imperative)	щу́чий	of pike (adj.)

The unopposed plain consonant /c/ (Ц) imparts less of the "dull" quality to the adjacent vowel than is characteristic of vowels next to other plain consonants;[14] in this its effect resembles that of having no adjacent consonant.

C - C

сыт	full up (short form masc.)	цык	hush!
тент	awning	цент	cent
сад	garden	цац	of the swellheads (gen. pl.)
сок	juice	цок	click
сук	bough	цуг	tandem

Classified by the criterion of closeness of the tongue to the roof of the mouth, the Russian vowel phonemes /i/ and /u/ are high vowels; /e/ and /o/ are mid vowels; /a/ is a low vowel.

The vowels /u/ and /o/ are rounded; /i/, /e/, and /a/ are unrounded.

The position of the tongue in the mouth varies greatly in the front-and-back direction for the pronunciation of a given vowel phoneme, depending on the adjacent consonants; the vowel is further back next to a plain consonant and further front next to a palatal or palatalized one. This makes the criterion of rounding of more fundamental importance for the classification of Russian vowels than the front-back criterion.

	UNROUNDED	ROUNDED
HIGH	i	u
MID	e	o
LOW	a	

It is still true, however, that relative to each other when adjacent to similar consonants the vowels can be classified as: front, /i/ and /e/; central, /a/; back, /u/ and /o/.

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[14] The articulatory details related to this quality are summarized at a later point in section 4.3.

	FRONT	CENTRAL	BACK
HIGH	i		u
MID	e		o
LOW		a	

In unaccented syllables the vowels are shorter and are pronounced less distinctly than in the stressed syllable of a word. (In most cases this involves a pronunciation with the tongue closer to a mid-central position than for the corresponding stressed vowel.) The effects of this reduction, as it is called, are markedly less in the syllable of a word which immediately precedes the main stress than in other unaccented syllables.

/i/	в итóг into the total	дымовóй (adj.) for smoke	вы́мыто it is washed (short form neut. p. p.)	свéты lights
/a/	атáк of attacks (gen. pl.)	домовóй brownie	вы́мотал drained (past masc. perfective)	свéта of light (gen.)
/u/	утóк woof	шумовóй of noise	в óмутах in the pools	свéту to light (dat.)
/e/	этáп stage	эмигрáнт emigrant	пáтер padre	фóрте forte
/o/	отéль hotel	бонвивáнт bon vivant	хáос primordial Chaos	вéто veto

The occurrence of /o/ in an unaccented syllable and that of /e/ in an unaccented syllable after a plain consonant (or none), have a special status in Russian. They are found only in foreign words incompletely assimilated

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to the Russian vocabulary. <In general the letters o and a are read with identical pronunciation in unaccented syllables, both as spellings for the phoneme /a/.>

In unaccented syllables following palatalized consonants, the situation is somewhat more complicated. For the most part, only the vowels /i/ and /u/ are found. <The spelling for /u/ is ю , for /i/ it may be и , е , or я.> In certain situations additional phonemic distinctions are made, and there is considerable variation as to these among different speakers. There may even be vacillation between pronunciations on the part of a given individual.

/i/	блести́	shine! (imperfective imperative)	плечево́й	humeral	вы́клинит	will knock out the wedge (pres. 3 sing. perfective)
/u/	блюсти́	to guard	ключево́й	key (adj.)	вы́клюнет	will peck out (pres. 3 sing. perfective)

Some speakers of standard Russian regularly distinguish /i/ (и) and /e/ (е, я) in unaccented syllables. Others do so only in the syllable preceding the main stress -- apart from the final syllable of words, which requires special consideration and will be mentioned separately below.

The distinction would seem to be mostly characteristic of meticulous speaking, or of speakers who follow an older standard of pronunciation.

	/i/		/e/
в листе́	within the leaf	блести́	shine! (imperfective imperative)
приду́	I'll arrive (pres. 1st sing. perfective)	пряду́	I spin (pres. 1st sing. (imperfective)
питу́х	drunkard	пету́х	rooster

/i/		/e/	
листово́й	in sheets (adj.)	плечево́й	humeral
вы́клинит	will unwedge (pres. 3rd sing. perfective)	вы́клепать	to unrivet

In final syllables, particularly the inflectional endings of words, the four phonemes /i/, /e/, /a/, /u/, may all be distinguished after palatalized consonants.

/i/	Ва́ни	Johnny's (gen.)	га́сни	die down (perfective imperative)
/e/	Ва́не	to Johnny (dat.)	ши́ре	broader
/a/	Ва́ня	Johnny	ве́ря	believing (gerund)
/u/	Ва́ню	Johnny (acc.)	уда́рю	I'll hit (pres. 1st sing. perfective)

The possible occurrence of vowel phonemes after the plain consonants /ž/, /š/, and /c/ is not necessarily the same as after other plain consonants. Quite generally it differs at the ends of words, where unstressed /e/ can occur regularly after these consonants.

/i/	Ми́ши		ко́жи		у́лицы		(gen.)
/e/	Ми́ше		ко́же		у́лице		(dat.)
/a/	Ми́ша	Mike	ко́жа	skin	у́лица	street	(nom.)
/u/	Ми́шу		ко́жу		у́лицу		(acc.)

In other situations, speakers may either distinguish /i/, /a/, /u/, as after other plain consonants; they may have only a two-way distinction, merging /a/ with /i/; or they may have a four-way distinction /i/, /e/, /a/, /u/, as shown above for final syllables. One of the major factors involved here, and in many problems of Russian unstressed vowels, is the extent to which the spelling of a word influences its pronunciation for various speakers and at various times.

⟨A particular problem of vowels in unstressed syllables involves the third person plural forms of verbs with the spellings ят and ат . Without stress (бро́сят 'they will throw' слу́жат 'they serve')many Russians say /ut/ rather than /at/.⟩

3.6

Other Phonemes:

The usual pattern in Russian is for each word to have one main stress /q́/. In addition to the stressed syllable, it may have quite a few unstressed syllables.

интернационализа́ция	internationalization
вы́кристаллизующееся	what crystallizes out (nom. sing. neut. pres. act. participle, perfective, reflexive)

When a group of words are spoken together (in a single phrase), each regularly carries one stress. It is most frequent for the stressed syllable of the last word to be the most prominent in the whole phrase. Since it is possible, however, for a word other than the last to carry the greatest prominence, the symbol /°/ will be written to indicate the phrase emphasis with whatever /q́/ is actually most prominent.

студе́нт отве°ча́л	The student was answering.
сту°де́нт отвеча́л	It was the student who was answering.

The normal stress for some words within a phrase is weaker than the stress /q́/ which is found on most nouns, verbs, and adjectives.

в ме́сто °сбо́ра	into the meeting place
в мѐсто °сбо́ра	instead of meeting

мо́й °бра́та	wash (your) brother!	га́же бо°ло́та	nastier than a swamp
мо̀й °бра́т	my brother	да̀же бо°ло́то	even a swamp!

This lesser stress, /q̀/, is also found on the first part of certain compounds.

ю̀го-за́пад	southwest	блѐдно-голубо́й	pale blue

#It also appears in the reading of abbreviations.

ССР	/ès ès ér/	Soviet Socialist Republic
С. С. Эренбург	/és és éŗinburk/	

There are also a few other special instances of the occurrence of /q̂/.

трёхсо́т	/tŗòx sót/	of 300 (gen.)
кое-ка́к	/kòya kák/	one way or another
не́ с кем	/ņé sķèm/	there is nobody with whom to

There are a few words in Russian, mostly conjunctions and interposed particles, which may occur without stress when used normally in a sentence.[*] Some of these are almost always without stress; for others the unstressed form is one possible alternative. Examples of a few of these are given below:

О̀н, мол, хо́чет, чтоб в̀ы при˚шли́.
He wants you to come, they say.

Э́то ведь всѐм уж из˚ве́стно.
Why, everybody knows that already.

(The stresses on the words not underlined in the examples above show one particular, reasonably colorless, way of reading these sentences; they might, of course, be said with different stresses on some words if a different emphasis is in mind.)

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[*] 15 By words without stress in the sense discussed here, it is not meant to include instances of nouns with the stress shifted to a preposition, (e.g. за́ город /zágarat/ 'out of town' по́ полу /pópalu/ 'across the fields') or instances like не́ было /ņébila/ 'it wasn't'.

There are phenomena in the pronunciation of Russian comparable to the division-point phoneme in English (/ _ /). They have not as yet, however, been extensively described by investigators. It is not known, for instance, whether the possibility of locating word boundaries solely on the basis of what is heard is at all as generally characteristic of Russian as it is of English. The tendency is to have / _ / intervening some place between any two stressed vowels -- occurring with either /q́/ or /q̀/ -- whether at word boundaries or between parts of a compound.

Certain effects on pronunciation are quite clearly associated with the occurrence of / _ /. Some of these will now be considered.

If an open transition / _ / is present somewhere between an unstressed vowel and a stressed vowel in the following syllable, the unstressed vowel exhibits greater reduction in pronunciation than the partial reduction usually observed in the syllable before the main stress.

довóльно	/davól̦na/	sufficiently
да вóльно	/da vól̦na/	indeed willingly
стáл опя́ть	/stál a°p̦áț/	he started again
стáло пя́ть	/stála °p̦áț/	there got to be five

Some prepositions may occur either with a stress /q̀/ on the preposition, separated by / _ / from the following word, or without stress and joined to the following word. This produces pairs like:

передо мной	/p̦ir̦idamnóy/ /p̦èr̦ida mnóy/	in front of me

If a stressed syllable is the last one before an open transition, the vowel in it is noticeably shorter than otherwise.

ту̲́ты та́м	/túti °tám/	the mulberries are there
ту̲́т и та́м	/tút i °tám/	here and there
то̲́же	/tóži/	also
то̲́ же	/tó ži/	the same

A vowel separated from a palatal consonant by /_ / is pronounced with the type of variant which would occur if no consonant stood next to it.

c̦ - c̦	те̲́ни та́м	/țén̦i °tám/	the shadows are there
c̦ - c	те̲́ не та́м	/țé n̦i°tám/	those aren't there
c̦ - c	хотя̲́т	/xațát/	they want
c - c	хоть а̲д	/xaț át/	Hell, even

In syllables not immediately preceding the main stress, an unstressed /a/ is pronounced more as a low vowel (with less reduction) when it follows /_ / than otherwise.

иду́ к А̲лекса́ндру	/idú kal̦ik°sándru/
дру́г А̲лекса́ндра	/drúk al̦ik°sándra/

Preceding /_ /, unstressed /a/ also shows lessened reduction -- although it is more reduced before /_̇ / than after /_ /.

до̲говори́л	/dagavar̦íl/	he finished speaking
да̲ говори́л	/da gavar̦íl/	he was talking, right enough

The phoneme /i/ after a plain consonant followed by /_ / is pronounced much as after plain consonants generally.

The effects of open transition at other points cannot be simply stated. In impressionistic terms, they suggest description as a checking in the stream of speech before going on to the next sound. Thus there can be clear differences in transition as the only feature distinguishing certain pronunciations of the following pair of items, although this does not fall under any of the types yet mentioned.

там а́рка	/tàm árka/	there's an arch there ...
та ма́рка	/tà márka/	that stamp

Until more studies of the problem are available, the details as to just where /_ / can occur and how it affects adjacent sounds in each case must be left unclear.

The breaking up of long stretches into phrases is operative in Russian.

The ends of phrases terminate in different ways, which can be assumed to contrast much as do /|/, /↑/, and /↓/ in English.

About Russian pitch phenomena, no systematic statements can at present be made with much assurance. An analysis representing Russian pitch with four significant levels, similar to those required for English, has been suggested. Such a system will be employed where convenient in this study.

END--Chapter 3

4. Russian and English Sounds Compared

This chapter considers the relations to be found between English sounds and Russian sounds, both as parts of two different systems and as independent items of pronunciation.

The comparison of the English and Russian sound systems in this work makes a basic division between problems of individual sounds and problems of sound combinations, and likewise in general endeavors to treat separately vowels, consonants, and other types of phonemes. Such divisions can only be approximate, as there is overlapping influence among the various compartments.

|| In this final chapter, the notation R/ / is used for phonemes of Russian and E/ / for phonemes of English.

4.1 Stressed Vowels

Certain points about the relations between the vowels of Russian and English can be brought out by comparing charts of the two systems.

Russian			English		
i		u	i	ə,ɨ	u
e		o	e	ʌ	o
	a		æ	a	

The most evident difference is that Russian has fewer elements in its system, even considering only the individual vowel phonemes and not the diphthongs.

Associated with the smaller number of phonemic distinctions between vowels in Russian, each Russian vowel phoneme has a wide range of pronunciation. The variants of the same vowel phoneme in different circumstances will be found to resemble the sounds of at least two different vowel nuclei of English.

¶ Russian does have sequences of a vowel followed by R/y/. There is little reason within the patterns of Russian for regarding these as inherently different from any other sequences of a vowel followed by a consonant. They are, however, obviously somewhat comparable to the English diphthongs ending in E/y/.

Russian		English	
iy	uy	iy	
ey	oy	ey	oy
ay		ay	
убúйство murder	буйный violent	beast	
бей beat (imperfective imperative)	бой struggle	bay	boy
Май May		my	

Confusion for the English hearer arises from the fact that in Russian the [y]-position of a following palatal or palatized consonant is anticipated during the preceding vowel. This is most noticeable in the situation C___Ç when the preceding consonant is plain (indicated by C) rather than palatalized (indicated by Ç); the shift, during the vowel, of the basic articulatory position in a palatal direction makes more pronounced the impression of a glide before the consonant.

Russian vowels in the environment C__Ç need to be distinguished from sequences of a vowel followed by R/y/. Each of these two types bears a similarity to English complex nuclei containing E/y/.

тайн of the secrets (gen. pl.)	stein	стань stand up (perfective imperative)
войн of wars (gen. pl.)	coin	конь steed
по́йло swill Бо́йля Boyle's	boiler	поле field

Most dialects of English have no diphthong /uy/, though some speakers do, for instance, pronounce buoy as one syllable not homophonous with boy. For other speakers, the closest analogue of R /uy/ is E/uwɨy/.

ду́йся be sulky (imperfective imperative)	Dewey's	гу́ся goose's (gen.)

Russian R/u/ is a higher, backer, more rounded vowel than E/u/. English E/uw/ is a diphthong which becomes increasingly higher, backer, and more rounded during the course of the E/w/ glide, something which Russian R/u/ does not do. The beginning of E/uw/ may be quite a centralized vowel, so that phonetically the nucleus is approximately [ʉw]. The end of E/uw/ has approximately

[ʉw]
barred u.

the right quality for Russian R/u/ in the environment C__C. In the positions Ç___C it is further forward, and in Ç___Ç it reaches an approximately central position. With the fronting, R/u/ also becomes progressively a bit higher and more rounded.

u	C___C	Ç___C	Ç___Ç	uw
foot	фут 12 in.	люд folk	ключ key	loot

¶ For Russian R/o/ the situation is parallel. It is a higher, backer, more rounded vowel than E/o/ and lacks the diphthongal glide of E/ow/. It is closest to E/o/ in C___C. In Ç___Ç it is considerably fronted and approaches the height and rounding characteristic of the end of E/ow/.

o	C___C	Ç___C	Ç___Ç	ow
taught	тот this	тётка aunty	тётя aunt	tote

¶ Russian R/a/ in the environment C___C may be fairly close to E/a/. Just how close depends on the dialect of English, since R/a/ in this situation is central, but English E/a/ may be more back than central for many speakers. (Conversely, some Americans have a pronunciation of E/a/, especially before E/t d č/, which is fronter than R/a/.) In Ç___Ç R/a/ ranges towards E/æ/; in Ç___C it is intermediate.

a	C___C	Ç___C	Ç___Ç	æ
Mott	мат checkmate	мят is rumpled (short form Masc. past participle)	мять to rumple	mat

¶ Russian R/e/ in the environment Ç___C is close to E/e/; in C___C it ranges towards E/æ /; in Ç___Ç it approaches E/ey/. For this reason, the English speaker may easily confuse R/e/ in Ç___Ç with R/ey/, although R/e/ in this environment has very little [y]-glide.

æ	C___C	e	Ç___C	Ç___Ç	ey
Sal	цел whole (short form masc.)	sell	сел sat down (past masc. perfective)	сельдь herring	sail

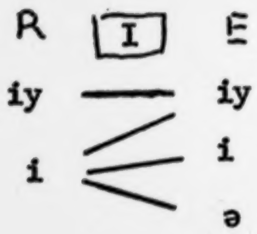
R/ey/	E/ey/	Ç___Ç
сейм Polish parliament	same	семь seven

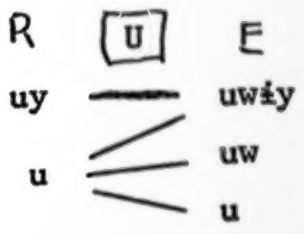
¶ In those dialects in which E/ ə / can be found as a stressed vowel phoneme, it serves as a fairly good approximation to Russian R/i/ in C___C (bl). The Russian vowel in this position is normally a bit further back than E/ə/. Russian R/i/ in Ç___C is higher and fronter than E/i/ and lacks the glide of E/iy/. In Ç___Ç, R/i/ is an extremely close high-front vowel.

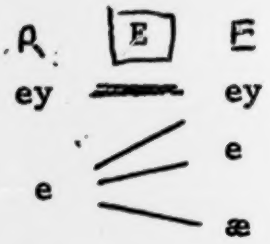
C___C	ə	i	Ç___C	iy	Ç___Ç
сын son	s'ch (such)	sin	апельсин orange	seen	синь dark blue (short form masc.)

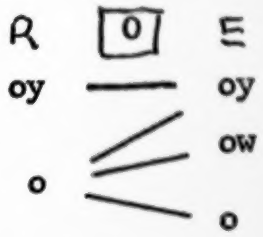
R/iy/	E/iy /	Ç___Ç	Витя
убийца killer	pizza		Vic (hypocoristic)

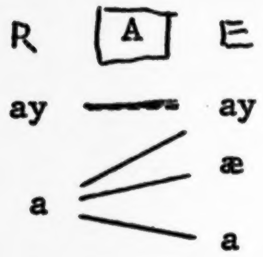
¶ The relations between the stressed vowel systems of Russian and English show a considerable overlapping in ranges of pronunciation. Diagrams can be made to indicate which nuclei in the two languages are the source of interference. Considering vowels as found with a stress accent /q́/ or /q̀/ in Russian and the full vowels of English, these diagrams represent the situation.



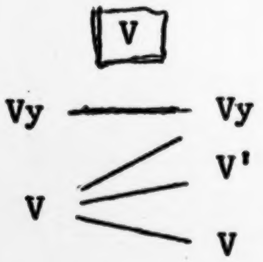








Making certain simplifications, a summarizing diagram can be constructed to indicate the basic similarity in pattern of all the diagrams above. Here V stands for any vowel, V' for another vowel or complex nucleus.



The meaning of this shorthand diagram is that it may be said in general that any Russian vowel phoneme has relevant relations to three English vowel nuclei; one of these involves a [y]; this one is in turn related to a Russian sequence of vowel plus [y].

The order of the symbols in the summary diagram is correct for $\boxed{U}$ $\boxed{O}$ $\boxed{A}$ but V and V' would be interchanged for $\boxed{I}$ and $\boxed{E}$. The other simplification lies in the lack of a nucleus /uy/ in most dialects of English, so that E/uwɨy/ fills this spot in the $\boxed{U}$-diagram. Note also that E/æ/ is found both in the $\boxed{E}$-diagram and the $\boxed{A}$-diagram.

The only English stressed vowel nucleus not yet mentioned, of those regularly occurring in most dialects, is /aw/ (hound). The closest analogy to it in Russian is /áu/ as in фауна 'fauna'. The Russian sequence, however, divides between two syllables, while the English diphthong is the nucleus of a single syllable.

стра́ус ostrich	Strauss
па́узы pauses (pl.)	lousy

The most serious difficulty with Russian vowels for an American comes in learning to make the proper accommodations to the adjacent sounds. (For the Russian learner of English, the problem is to incorporate phonemic distinctions which are strange to his system.)

There is one type of situation in which English vowels are influenced by adjacent consonants in a way that Russian vowels are not. The nasal articulation of a nasal sound (E/m n ŋ/) is anticipated in vowel sounds preceding it and to a lesser extent may carry over into vowel sounds following it.

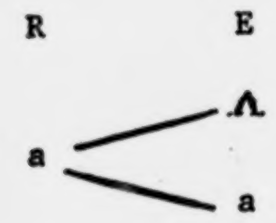
numb	нам
many	ме́нее

4.2 Unstressed Vowels

Unstressed Russian R/u/, especially after C, in the syllable immediately before a stressed syllable is to be compared with E/u/. The other English nucleus relevant for comparison is the type of E/ɨw/ found after E/y č š/. (Even unstressed, Russian R/u/ is usually higher, backer, and more rounded than E/u/, and it does not have the diphthongal glide normally found in E/ɨw/.)

султáн sultan	fulfil /fulfíl/
юнéц young man	unique /yɨwníyk/

Russian R/a/ in the syllable immediately before a stressed syllable is a higher vowel than stressed R/á/ and approaches English E/ʌ/. Whether the English vowel to which pre-stress R/a/ bears the closest resemblence is E/ʌ/ or E/a/ depends on the dialect of English.



R/a/ E/ʌ/

постройка building construction	frustration /frʌstréyšɨn/
амбрóзия ambrosia	umbrella /ʌmbrélɨ/
алтáйского Altaic (gen. sing. masc. or neut.)	ulterior /ʌltírɨyɨr/ E/a/
волкáми by the wolves (instr. pl.)	volcano /valkéynɨw/ (can have E/ʌ/)
Антáрктика Antarctica	ontology /antálɨǰɨy/
Аксúнья (woman's name)	Oxonian /aksównɨyɨn/

¶ Other variants of unstressed R/a/ with a phonetic quality similar to E/ʌ/ are found after R/#_/ and next to certain vowel phonemes.

ананáс pineapple	unambitious /ʌnæmbíšɨs/

(Vowel phonemes do not ordinarily occur immediately next to one another in English; thus English E/ʌ/ cannot be found in surroundings which make it directly comparable with unaccented R/a/ adjacent to another vowel.)

соотношéние correlation	коперáцие cooperation

¶ In final syllables, i.e. before R/ _ #/, unaccented R/a/ is much like E/ɨ/ before E/ _ #/.

Анна	Anna /ǽnɨ/
чýдо wonder (noun)	Judah /júwdɨ/

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¶ In environments other than those already discussed, both unstressed R/a/ and R/i/ after a plain consonant (C) fall within the range of English E/ɨ/. On the average, R/a/ will be a lower vowel than E/ɨ/, and R/i/ will be a higher and backer vowel; English E/ɨ/, however, is subject to considerable variation depending on the neighboring sounds and also according to the dialect of the speaker.

хо́бот elephant's trunk	habit	до́быт achieved (short form masc. past participle)
вы́жал he squeezed out (past masc.)	vigil	вы́жил he survived (past masc.)
си́зом dove grey (prepositional sing.)	schism	си́зым dove grey (instrumental sing.)
пальцево́й digital	epilogistic	пыльцево́й pollinic
водворя́ть put in place	equidistantial	выдворя́ть turn out
соразме́рный proportional	supererogatory	сыромя́тный raw
сороково́й 40th	surrealistic	сыроваре́ние cheese-making

¶ Russian R/i/ after a plain consonant in the syllable before a stress is only roughly comparable to E/ɨ/.

мыши́ный mouse (adj.)	machine	[less like маши́на machine]
дымо́к puff of smoke	Damascus	[less like домо́к little house]
пыли́ть to raise.dust	polite	[less like поли́ть to pour]

¶ Unstressed R/i/ after a palatalized or palatal (or no) consonant, while less high and front a vowel than stressed R/i/, is still higher and fronter than English E/i/. Also it lacks the [y]-glide which is characteristic of E/ɨy/;—at least for large numbers of speakers.

filtration	/filtréyšɨn/	фильтра́ция id.	detraction	/dɨytrǽkšɨn/
affix (noun)	/ǽfiks/	а́ффикс id.	taffies	/tǽfɨyz/

¶ Before R/ _ /, Russian unstressed R/i/ and R/iy/ both bear considerable resemblance to E/ɨy/.

ра́дий radium	ра́ди for the sake of	ра́ды are glad	ready	/rédɨy/

(It is to be noted that in certain styles of speech Russians may fail to distinguish final Çi and Çiy. The adjective ending spelled ый, and ий after к, г, х, ж, ш, is pronounced as either R/iy/ or R/ay/; speakers who use the latter pronunciation have only rare instances of unstressed Ciy_ , for instance ва́шей R/vášiy/. Even if the adjective ending is pronounced as R/ay/, the closest analogue in English is still E/ɨy/.

стро́гий strict	/strógiy/ or /strógay/	Yogi
ми́лый kind	/m̡íliy/ or /m̡ílay/	mealy)

¶ As mentioned before, final unstressed R/a/, rather than R/i/, is comparable to E/ɨ/.

Анны Anna's (gen.)	Annie	Anna	Анна
кóды codes	Cody	coda	кóда of code (gen.)

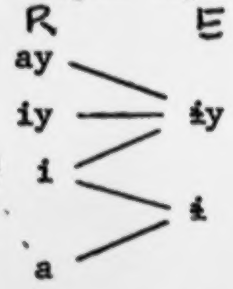
In most cases, the vowels in Russian unaccented syllables which come immediately before a stressed syllable are to be compared with English full vowel nuclei, while those in other unaccented syllables are to be compared with English reduced-vowel nuclei E/ɨy/, E/ɨ/, E/ɨw/.

The most characteristic association in the pre-stress position would be:

R/i/ - E/i/ R/a/ - E/ʌ/ R/u/ - E/u/

(also E/ɨ/) (or E/ə/)

In other unaccented syllables, there are in general three Russian vowel phonemes involved, R/i/, R/a/, R/u/, and three English vowel nuclei E/ɨy/, E/ɨ/, and E/ɨw/, but the two sets cannot be matched up in a simple way.



R E

u — ɨw only for certain environments of E/ɨw/.

4.3 Consonants

Comparison of charts of the Russian and English consonants is useful for a rough indication of the relation of the two systems.

(See attached diagram).

RUSSIAN		LIPS	LABIO-DENTAL	INTERDENTAL	DENTAL/ALVEOLAR	PALATE	VELUM	NON-LOCAL	ENGLISH	LIPS	LABIO-DENTAL	INTERDENTAL	DENTAL/ALVEOLAR	PALATE	VELUM	NON-LOCAL
Stop (Affricate)	[voiceless]	p p̦			t ț c	č	k k̦			p			t ☐	č	k	
	[voiced]	b b̦			d d̦	☐	g g̦			b			d	ǰ	g	
Fricative	[voiceless]		f f̦	☐	s ș	š ș̌	x	☐			f	θ	s	š	☐	h
	[voiced]		v v̦	☐	z z̦	ž ž̦	(γ)				v	ð̌	z	ž	☐	
Nasal		m m̦			n n̦		☐			m			n		ŋ	
Lateral					l l̦								l			
Other Resonants		☐				☐ y				w				r y		
Trill					r r̦								⊟			

It is evident that certain elements in each system are not directly relatable to anything in the other. That is, we can say that the consonant phonemes essentially most foreign to the other language are in English E/ w θ ð ǰ r ŋ h / and in Russian R/ c r r̦ x γ/.

In certain cases a phoneme in one system may be compared to a sequence of phonemes which exists in the other. Thus, we need to consider the relation of E/ǰ/ to R/dž/ (дж, тж) and of R/c/ to E/ts/.

In some circumstances the English consonant phoneme E/w/ must be considered comparable to the Russian vowel phoneme R/u/, as for instance in the previous discussion (41) of the relation between E/áw/ and R/áu/.

The most basic difference between the consonant systems of English and Russian is the contrast between plain and palatalized consonants which pervades the Russian consonant pattern.

To a first approximation, Russian plain consonants are comparable to English consonants before the back-vowel phonemes E/u/ and E/o/. Russian palatalized consonants are like English consonants before E/i/, E/iy/, and E/y/.

Consonants followed by E/y/ in English are generally to be found only before E/uw/, E/ur/ and E/ɨ/. From the point of view of comparison with Russian, the interesting possibilities are those represented by:

spew	imbue	mute	few	view	skew
(tune)	(duke)	tenure (news)	(suit)	(Zeus)	
value	(lute)		erudite	(rude)	

The words in parentheses above have E/y/ in fewer types of American English. In stressed syllables E/ly/ and E/ry/ (lute, rude) are not common. (Some dialects, which use /iw/ in place of E/yuw/ after consonants in stressed syllables, have consonants followed by /y/ regularly only before /ɨ/:

impudent nebula tremulo

inoculate angular nephew Savior

Approximate equivalence may be said to exist between Russian and English sounds at the beginnings of these words:

b	бут rubble		boot	
b̦	бюст bust	бис encore!	beauty	beast

The situation is further complicated, however, by the existence of clusters of palatalized consonant followed by R/y/, which are also roughly comparable to English E/by/, etc.

Ç y	Ç
льют they pour	лют ferocious (short form masc.)
льёт pours	лёд ice
рьян fervent (short form masc.)	ряд row
пье́са stage play	пе́сня song
семьи́ family's (gen. sing.)	семи́ of seven (gen. sing.)

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There are also, at least for many speakers of Russian, clusters of a plain consonant followed by R/y/.

Ç	Çy	Cy
обёртка cover	бьём we beat	объём girth
вяз elm	жнивья́ of stubble (gen.)	въявь in reality

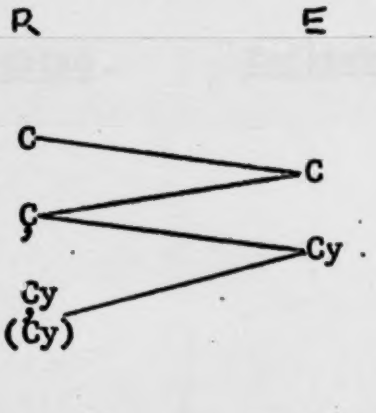
Subject, then, to the limitations on the occurrences of sequences of Cy in English — where /C/ stands for any consonant — the following diagram schematizes the relations of elements in the two languages relevant to the plain vs. palatalized distinction in Russian. Since E/Cy/ is virtually limited to occurrence before E/uw/, E/ur/, E/ɨw/ and E/ɨr/, the closest sounding sequence in English to R/Çy/ before vowels other than R/u/ is often E/Cɨy/.

пья́ный drunk	piano	/pɨyæ̂nɨw/
бьём we beat	beyond	/bɨyánd/

Obviously, this presents another possible type of interference of English habits in the learning of Russian pronunciation.

In English, furthermore, many words vary between a hurried pronunciation with E/Cy/ and a careful pronunciation with E/Cɨy/

serious	E/sîryɨs/	or	E/sîrɨyɨs/
menial	E/mîynyɨl/	or	E/mînɨyɨl/[1]

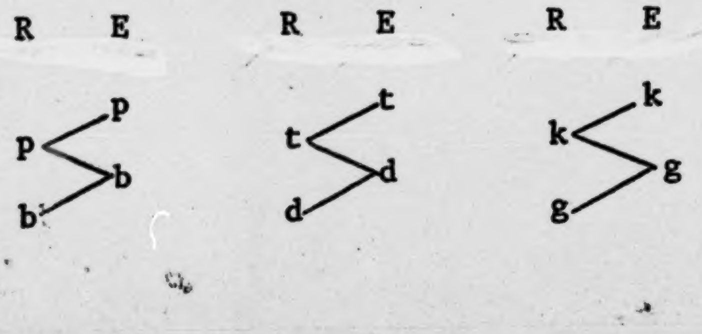


¶ Both the plain and the palatalized consonants of Russian involve types of sound formation which are strange to English speakers. In the case of the palatalized sounds, part of this is quite apparent; simultaneously with the other aspects of pronunciation, the blade of the tongue is held near the palate, as it is when [y] is pronounced. As has been noted in discussing vowels, the effect of the [y]-pronunciation simultaneous with the consonant is often extended so that it markedly affects an adjacent vowel.

For plain consonants, the basis for the special features of the sound are less obvious. Plain and palatalized consonants in Russian differ not only as to position of the tongue in the mouth but also as to the aperture of the throat cavity. The passage through the throat is more open for palatalized sounds and tighter for plain sounds. Russian plain consonants are accompanied by more constriction than are their English counterparts; as a result, they strike speakers of English as sounding "dull" or "muffled". In addition, Russian plain consonants are pronounced with a certain amount of lip tension, even when not adjacent to one of the rounded vowel phonemes (R/u/ or R/o/).

A speaker of English who wishes to acquire an acceptable pronunciation of Russian has to learn new habits for making the plain sounds as well as for the palatized ones.

¶ One important difference found in comparing the consonants of Russian and English is the way in which the corresponding stop phonemes -- represented by the same letters in the phonemic transcriptions of the two languages -- do not match closely as to phonetic quality of pronunciation. Diagrammatically, the situation can be represented thus:



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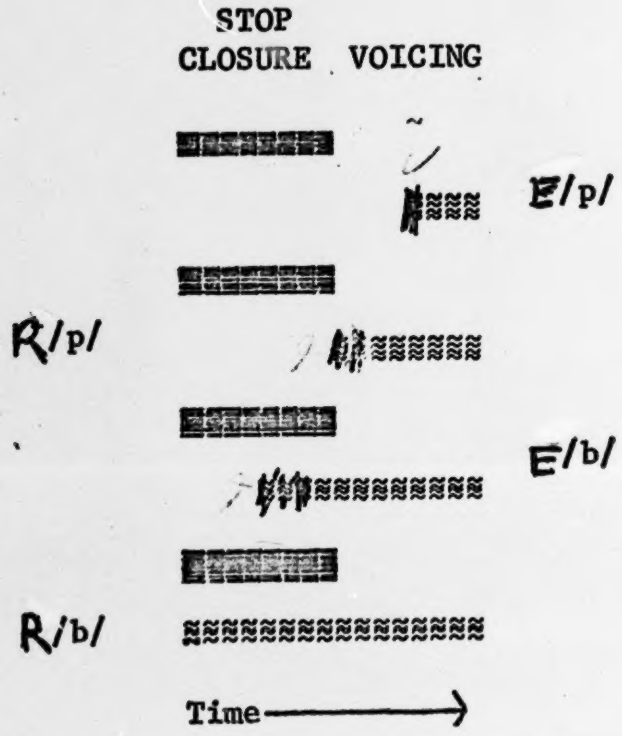
The differences are most pronounced when the consonant begins a stressed syllable. In this circumstance, E/p/, E/t/, and E/k/ are aspirated, i.e. the stop closure is followed by a short period during which there is a fairly audible escape of breath before the voicing for the vowel of the syllable begins. R/p/, R/t/, R/k/ are unaspirated; the voicing of a following vowel or other voiced sound (R/ r r̦ l l̦ m m̦ n n̦ y v v̦ /) begins almost immediately after the closure for the stop is opened.

The difference between E/b/, E/d/, E/g/ and R/b/, R/d/, and R/g/ in this circumstance consists principally in the fact that the period of voicing while the stop closure exists is much shorter in the case of the English sounds.

These differences in the timing of the starting of vocal cord vibrations result in the possibility of confusion between R/p/ and E/b/, R/t/ and E/d/, R/k/ and E/g/.



pool	пуд 36 pounds	boot	бут rubble
two	ту that (acc. sing. fem.)	do	дух spirit
cool	кус morsel	goose	густ dense (short form masc.)
plot	плац parade ground	blot	блат thieves' cant
clean	клин wedge	glean	глин of clays (gen. pl.
tress	треск crash	dress	дре́вко flagpole
quash	квас kvass	guava	гвоздь nail
twice	тварь creature	Dwyer	два two

After E/s/, E/p t k/ are unaspirated and in this circumstance they come closer to the pronunciation of R/p t k/.

spool	пуд
stool	ту
school	кус

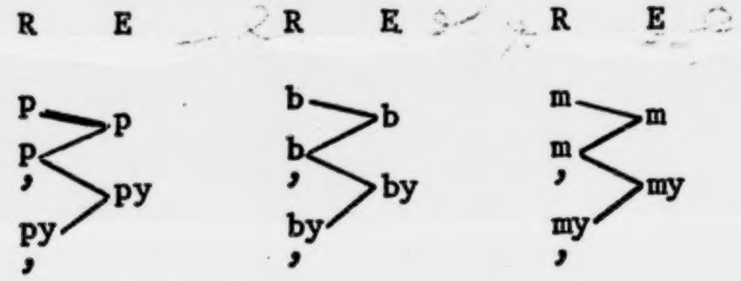
After E/f c š/ the onset of voicing is not markedly delayed, and in this respect there is no important difference from Russian sounds.

Initial R/v v̦ z z̦ ž/ are voiced from the very beginning of the fricative sounds, while in initial E/v/ and E/z/ the start of voicing is considerably delayed so that we have in effect [^{f}v] and [^{s}z]. (Initial E/ž/ is rare—some speakers use it in partially anglicized French words such as genre — so it does not enter the picture here.)

photo	фóто id.	vote	вот there
soup	суп id.	zoom	зуб tooth

It is also true that final voiced stops and fricatives in English are only voiced part way through the sound (robe [-bp], road [dt], rogue [gk], rove [vf], rose [zs]). Since, however, Russian normally has only voiceless final stops and fricatives, this is of only slight interest in contrasting the two languages. In this section consonant phonemes will be treated in groups which exhibit similar interlanguage relationships. The discussion will also treat other differences in pronunciation less basic than those of the preceding sections, in that they are less structurally relevant for comparison between the two languages.

The first group is one for which the important relations are only those already discussed, involving palatalization and voicing, and for which the English consonants being considered frequently occur before /y/.



(пёстрый)

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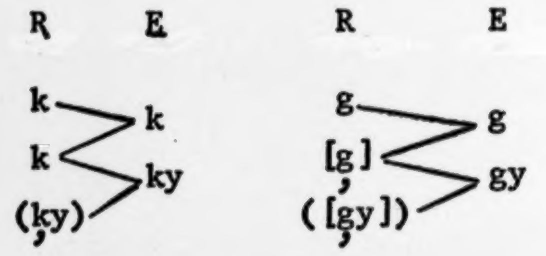
C			C̦	C̦		C̦y
пуск setting in motion	puss	peace	писк chirp	пёстрый motley	Pusey	пьющий drinking (pres. participle)
бут rubble	boot	beast	бис encore!	бюст bust	beauty	бьют they beat
мудр wise (short form masc.)	mood	mere	мир peace	мюд	mute	семью seven (instrumental)

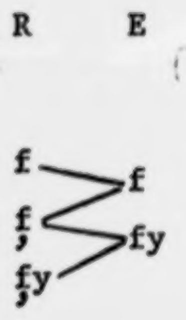


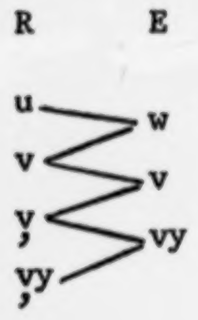
From the point of view of English the relations in this group are much the same as in the previous one. The major difference lies in the great rarity of Russian [k̦y] and [g̦y] and the limitations as to where /k/ and /k̦/, [g] and [g̦] occur.

C			C̦	C̦		C̦y
куб cube	coop	keep	кип of stacks (gen. pl.)	Кюсю Kyushu	accuse	(Лукьян)
гурт herd	gourd	gear	гирь of clock weights (gen. pl.)		argue	

¶ Russian R/f/ and R/v/ are pronounced with the lower lip pushed further forward than for English E/f/ and E/v/.

For comparison of R/v/ and E/v/ there are some additional factors involved. Russian R/v/ is relatable to E/w/ while the latter it in turn is in certain environments comparable to Russian unstressed R/u/. Otherwise, the relationships involved in this group are much like those for E/p/ and E/b/.





The sequence R/f̦y/ is rare in Russian

C			C̦	C̦		C̦y
фут foot	foot	fiend	Финн Finn	графя́ graphing (gerund)	fuel	скуфья́ skull-cap
вот there	vote	veal	вил of a pitch-fork (gen. [pl. tantum])	червю́ worm (dative)	view	вью I twist

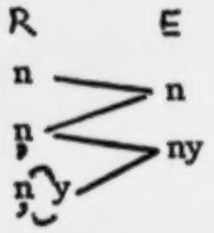
R/u/	E/w/	R/v/
уэ́льс Wales	Wales	вальс waltz
дуэ́ль duel	dwell	два two
гуа́но guano	guano	гва́рдия guards
туале́т attire	twilight	творе́ц creator

Even though Russian unstressed R/u/ before a stressed vowel often sounds more like E/w/ than does R/v/, Russians generally substitute R/v/ for E/w/. This is probably influenced by the fact that unstressed R/u/ before a vowel represents an unusual pattern in Russian.

As was pointed out before, Russian R/áu/ is comparable to English E/aw/. There are also examples in Russian of R/óu/. These, however, are too rare to have much importance for comparison with English E/ow/.

стра́ус ostrich	Strauss

Шо́у Shaw	show /šów/	анчо́ус anchovy	chose /čówz/



Russian R/n/ and R/n̦/ are dental, with the tip of the tongue touching the back of the upper front teeth while E/n/ is alveolar, with the tip of the tongue against the gum ridge a bit behind the upper front teeth.

C			C̦	C̦		C̦y
ну well, now!	noose	niece	низ bottom	святы́ню sacred object (accusative)	continue	латы́нью Latin (language) (instrumental)

For initial E/n/ and E/ny/ the relation to Russian depends upon the dialect of English.

C		C̦		C̦y
ну	new (/nuw/)	браню́ I scold	new (/nyuw/)	вранью́ pack of lies (dat. sing.)

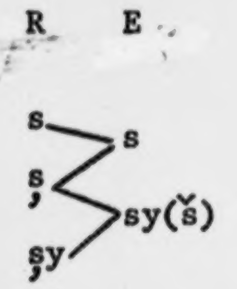
The principal difference between the next and the previous groups is the limitation of English E/sy/, E/zy/ to certain dialects. Certain speakers who otherwise lack E/sy/ E/zy/ have these clusters in a few words, particularly in what are often considered more elegant pronunciations.

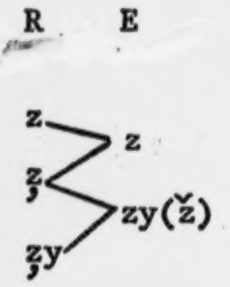
issue	/îsyuw/ /îšuw/	visual	/vîzyuwɨl/ /vîžɨwɨl/ /vîžwɨl/

(For various reasons, including these pronunciations and also such relations as

n	tenant	s	fissile	z	seize
ny	tenure	š	fissure	ž	seizure

there is some tendency for the speaker of English to regard [sy] and [š], [zy] and [ž] as equivalents.)





C			c̦	c̦		c̦y
суп	soup	seep	сипл hoarse (short form masc.)	ло́сю elk (dat. sing.)	issue	о́сью axle (instr. sing.)
				всю all (acc. sing. fem.)	suit (/syuw·e/)	
зуб tooth	zoo	zeal	зим of winters (gen. pl.)	кня́зю prince (dat. sing.)	closure	свя́зью bond (instr. sing.)
				стезю́ pathway (acc. sing.)	Zeus (/zyuws/)	

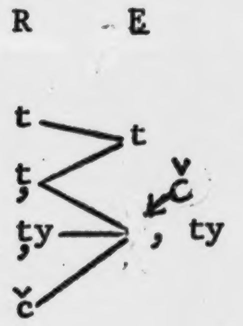
¶ Like R/n/, Russian R/t ț d d̦/ are dental rather than alveolar. In certain environments, especially at the end of a syllable (мать mother ведьма́ witch) Russian R/ț/ and R/d̦/ may sound to English speakers like E/č/ and E/ǰ/. The absence of E/ty/ E/dy/ in many dialects makes E/č/ E/ǰ/ the most generally comparable sounds to R/țy/ and R/d̦y/.

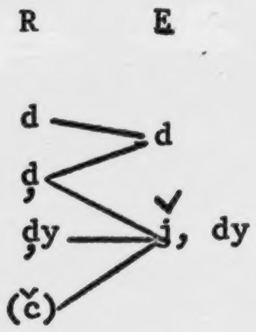
(As with the previous group, there are tendencies towards equating E/ty/ and E/č/, E/dy/ and E/ǰ/, supported among other things by variant pronunciations.

nature /néytyur/ sedulous /sédyuwlɨs/
~~/néčɨr/~~ /néyčɨr/ /séǰɨlɨs/

and by relation to other combinations:

n	tenant	d	verdant	t	vested
ny	tenure	ǰ	verdure	~~t~~ č	vesture)/





(The relation between E/ǰ/ and R/č/ involves the voiced type of R/č/ occurring before other voiced sounds.

алчба́ greed	прочь же scram	дочь Дави́да daughter of David)

c			c̦	c̦		c̦y	č
туг tight (short form masc.)	took	teak	тик id.	тёр rubbed (past masc.)	chore (mature)	мытьё washing	чёрт Devil
дум of thoughts	doom	dean	дин of dynes (gen. pl.)	дю́на dune	Juno (dune)	дьякон deacon	
				Ка́тю Kathy (acc.)	statue	пла́тью dress (dat. sing.)	пла́чу weeping (dat. sing.)
				медве́дю bear (dat. sing.)	procedure	ме́дью copper (instr.)	

$$\begin{tikzcd}[row sep=small] R & E & & R & E \\ \check{s} \arrow[rd, dash] & & & \check{z} \arrow[rd, dash] & \\ & \check{s} & & & \check{z} \\ \check{s}, \arrow[ru, dash] & & & \check{z}, \arrow[ru, dash] & \end{tikzcd}$$

The relationship of these consonants is much simpler. The phonetic quality of English E/š/ is closer to that of the palatal R/š/ than the plain R/š/. The length (or complexity) of R/š,/, however, sets it apart from English E/š/, so in this respect plain R/š/ seems the closer. The quality of the plain R/š/ and R/ž/ in Russian is largely produced by the protrusion of the lips, especially the lower lip; this is more important in distinguishing them from the corresponding English sounds than is the fact that the most raised part of the tongue is further back in the mouth for the Russian sounds.

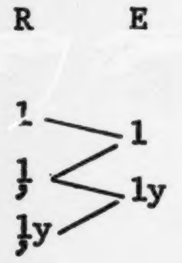
C		C,
шей sew! (imperfective imperative)	shay	щей of cabbage soup (gen. [pl. tantum])
тóже also	osier	пóзже later

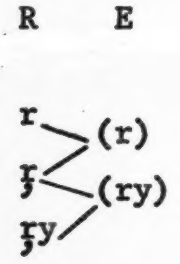
¶ Although we generally consider E/r/ and R/r/ as being equivalent elements in the two languages, Russian R/r/ is not at all like the typical American English E/r/, as say in roar E/rór/. Russian R/r/ is a trill in which the tip of the tongue vibrates against the aveolar ridge, usually touching it at least twice. The English E/r/ is typically a retroflex resonant with the tongue near the palate and accompanied by protrusion of the lips. The E/r/ phoneme has an extremely wide range of variants in different phonetic environments; furthermore there are important differences between British and American pronunciation.

Some Americans do use a trilled type of E/r/ after E/θ/ as in through E/θruw/ - this is the type of r-sound which telephone operators are instructed to use in three.

The special type of voiced t-sound which many Americans use before unstressed vowels (after another vowel) in words such as city, bottom, senator is very much like one tap of the Russian trilled R/r/.

Palatalized R/r̦/ presents a peculiarly difficult problem for Americans in that it is structurally different from English sounds both in the basic manner of producing the sound and in the feature of palatalization. A variety of English E/r/ which bears some resemblance to Russian palatalized R/r̦/ is found in stream E/stríym/.

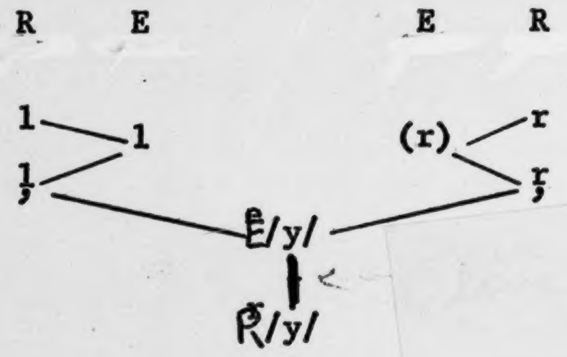




C			C̦	C̦		C̦y
лук onion	look	leak	лик outward appearance	люк hatchway	Luke	льют they pour
				Ва́лю Val (hypo-coristic) (acc.)	value	ста́лью steel (instr.)
сруб felling	through	stream	три three	Ве́рю I believe	virulent	две́рью door (instr.)

While the same type of pattern of interference as for most other consonants extends to E/l/ and E/r/, the situation is further complicated by the fact that the English hearer may very easily equate both R/l̦/ and R/r̦/

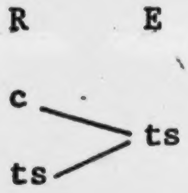
with E/y/:



r̦	l̦	y	
спорь argue (imperfective imperative)	боль pain	бой combat	boy
зáрев of glows (gen. pl.)	зáлежь [coal] bed	зáяц hare	Zion /záyɨn/
дворя́н of the noblemen (gen. pl.)	поля́н of clearings (gen. pl.)	бая́н accordion	Dianne

The Russian velar fricative R/x/ is sometimes considered comparable to English E/h/, but only because neither of these sounds has a really close match in the other language.

The pronunciation of E/hy/ used by many speakers in huge E/hyúwǰ/, Hugh E/hyúw/, human E/hyúwmɨn/ and the voiceless variety of E/y/ following the aspirated stop in cube E/kyúwb/, pure E/pyur/ are similar in phonetic quality to the palatalized variety [x̦] of Russian R/x/ as heard in хи́трый 'sly'. The usefulness of this comparability is limited by the fact that [x̦] occurs before R/i/ and R/e/ while the voiceless type of E/y/ is found mainly before E/u/.



Russian R/c/, as was mentioned before, needs to be compared with the English sequence E/ts/. Russian has also sequences of R/ts/. Many places where the spelling might suggest R/ts/ the prevalent pronunciation is actually R/c/.

шве́дский Swedish	сове́тский Soviet	like	не́мецкий German
Петрозаво́дск	Ирку́тск	like	Луцк

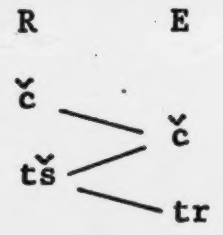
Pronunciation of the sequence spelled тся and ться in verb forms seems to be subject to considerable variation. The currently preferred standard appears to be R/tca/, with phonetically a [c] ~~which has~~ a lengthened stop portion at the beginning. Other pronunciations which are used by some people are R/tsa/ and simple R/ca/.

English E/ts/ is only exceptionally and for some speakers found at the beginning of words (e.g., tsetse) so that Russian initial R/c/ is quite foreign to the patterns of English.

R/c/	E/ts/	R/ts/
поцелу́й kiss	pizzicato	подсыха́ть to dry up
прецеде́нт precedent	pretzel	председа́тель r/tṣ/ president
Тро́цкий	Trotsky	о́тступ space (between)

(In rapid speech R/ts/ may in fact be replaced by R/c/.)

Besides R/č/, Russian has occasionally the sequences R/tš/, R/tč/, and R/čš/. The first of these is actually the closest equivalent in Russian to the English sequence E/tr/.



очёски combings	achieve	отшёл went away (past masc.)	a troll
ку́чи heaps	cootchie!	ху́дший worst	Autry

то́тчас (тотча́с)	at once	
о́тчим	stepfather	R /ţč/
тще́тно	in vain	R /č̌š,/

4.4 Other Phonemes

The effects produced by E _ / and R _ / are in some respects diametrically opposed. In Russian the syllable before R _ / is rather abruptly terminated; in English when the preceding syllable ends in a resonant it is prolonged.

а̀нглоса́кс /angla sáks/ Anglo-Saxon (man)	undulation /ʌnjɨléyšɨn/
о̀н гласи́т he declares /on glaşît/	ungelatinous /ʌnjɨlǽtɨnɨs/

Another noticeable difference is that the glottal closure that often occurs before vowels which follow E _ / in English is not found in Russian.

всё э́то all this	saw edge /só_eǰ/

In the comparison of stress phonemes, these are approximately equivalent:

R E

o —— o

R/q́/ —— E/q́/

R/q̂/ —— E/q/ unstressed full vowel

unstressed vowel R/q/ ∠—— E/ɨ/

гры́з °ко́сть gnawed a bone	gréased °cárs
а̀нглоса́ксы Anglo-Saxons	Ánglo-Sáxon
мы̀ да́ли we gave	my dólly
хоть ча́с for only an hour	at chúrch

The greatest difference in pattern of occurrences is that, in Russian, R/q̂/ is as a rule separated from R/q́/ by an occurrence of R/+ / somewhere between; in English, on the other hand, an unstressed full vowel may or may not have E/ _ / between it and E/q́/.

pay line	vs.	saline
/péy layn/		/sèylayn/
warlock		orlon
/wór làk/		/ór làn/

¶There is a degree of comparability between Russian unstressed vowels in the syllable before the stress (either R/q́/ or R/q̂/) and an English unstressed full vowel when it occurs in a like position. This is the case in English words like electrician /ɨlektrɨ̂šɨn/ (cf. электри́ческий) but this is not a common pattern for English words — unfortunately so from the point of view of making use of English habits in acquiring Russian pronunciation.

It is believed that the intonation in both languages is reasonably well analyzed in terms of four pitch-level phonemes:

^{R}/1/ ^{R}/2/ ^{R}/3/ ^{R}/4/ ^{E}/1/ ^{E}/2/ ^{E}/3/ ^{E}/4/

The pitches written similarly are then in each case comparable for each level from 1 (lowest) to 4 (highest).

Similarly comparable to the English terminals ^{E}/|/ ^{E}/↓/ and ^{E}/↑/ would be the Russian terminals, ^{R}/|/, ^{R}/↓/ (and quite possibly ^{R}/↑/.)

The most striking differences between the intonation of Russian and the intonation of English are not in the sound of the possible tunes for groups of words, which are roughly speaking the same in the two languages. The discrepancies lie rather in the meanings conveyed by the intonational patterns. The intonational pattern proper in one language in a given situation is often quite inappropriate if used for that situation in the other language.

When a Russian word affected by a single pitch-level phoneme receives a phrase emphasis (^{R}/°/), there is a marked impression of the pitch of the voice rising on the stressed syllable. For the corresponding situation in English, the pitch of the stressed syllable remains comparatively level.

^{4o}Мо́жно отвори́ть окно́?^{1} ↓ May I open the window?

^{4o}Whý did he wánt to get óut? ^{1} ↓

4.5 Conflicting Patterns

Of the sounds which occur in English but not in Russian, there are a few for which the patterns of their use in English can interfere with the learning of Russian by English speakers.

E/ŋ/

In Russian, the sequences R/nk/ [nk] and R/ng/ [ng] occur. Since in English the only nasal sound usually found before E/k/ and E/g/ is E/ŋ/, there is a tendency to substitute [ŋk] and [ŋg] in pronouncing Russian words. As with all instances of this sort, this is most pronounced when the words are associated through similarity in both sound and meaning with English words.

E/ŋ/	R/n/
bank	банк
English	англи́йский

E/w/

In words where R/v/ occurs after a consonant, [w] may get substituted for [v] on the basis of the fact that E/w/—rather than E/v/—frequently followsconsonants.

E/w/	R/v/
equivalent	эквивале́нт

E/ɨ/

There is a strong tendency for speakers of English to replace any unstressed vowel in Russian by some variety of the English obscure vowel E/ɨ/. Sometimes such a substitution will be sufficiently close to the Russian vowel but often it will result in an unacceptable pronunciation. The relations involved were in part discussed in the

(4.2)

section 4.2

under unstressed vowels. (The exact details involved are too complicated for consideration here, as they involve dialectal and stylistic variation in both languages and permissible alternate pronunciations in Russian.)

4.6. Consonant Clusters

There are important differences between the two languages in the types of limitations found on the occurrence of consonants in clusters. In general more varied combinations are possible in Russian than in English. Both languages have greater variety in medial than in initial or final clusters.

The most important class of restrictions in English affects the position in clusters of certain types of consonants, in particular resonants; these tend to occur adjacent to the vowel nucleus. Omitting further, more special, limitations, the following diagram summarizes the pattern.

Initial Clusters Final Clusters

(s)p , b (s)t , d (s)k , g f , θ s , š	y w r l	Vowel Nucleus	r l m n ŋ	Other Consonants	s z t d (θ)

Some additional initial consonant clusters are found starting with E/s/ (or E/š/).

smile snail sphere svelte (shmoo schnapps)

Final clusters E/sp/, E/st/, E/sk/ also occur; these provide the only cases among English non-medial clusters of the same phonemes appearing in alternate arrangements.

E/sp/	asp	E/ps/	apse
E/st/	past	E/ts/	pats
E/sk/	ask	E/ks/	ax

Russian does not have similar limitations on relative positions of types of consonants except for R/y/ which occurs only adjacent to vowels. Many pairs of phonemes can occur in either order.

Initial:

R/tr/	труд	labor	R/rt/	ртуть	quicksilver
R/gl/	глаз	eye	R/lg/	лгать	to tell lies
R/vl̦/	влечь	to attract	R/l̦v/	льва	of the lion (gen.)
R/čm/	чмо́кнуть	to smack the lips	R/mč/	мчать	to whisk away

Final:

R/rt/	спорт	sport	R/tr/	смотр	inspection
R/rk/	морг	morgue	R/kr/	мокр	is damp (short form masc.)
R/fk/	главк	central board	R/kf/	букв	of letters (gen. pl.)
R/fš/	ковш	dipper	R/šf/	подо́шв	of soles (gen. pl.)
R/mn/	гимн	hymn	R/nm/	сонм	assemblage

¶ In both languages most of the long final clusters are due to a limited number of affixes.

In English all four-phoneme final clusters, and many three-phoneme ones, result from the suffixes spelled s, 's and ed.

E/mpts/	tempts	E/mpst/	glimpsed
E/ŋkts/	instincts	E/ŋkst/	jinxed
E/rsts/	thirsts	E/rpts/	excerpts
E/rldz/	worlds	E/ksts/	texts

In Russian a fair number of nouns with the suffix —ство may be used in the plural; the genitive plurals of these account for many of the longer final clusters in Russian (all gen. p. "of the ...s"):

R/stf/	ка́честв	quantities
R/ctf/	средств	means
R/pstf/	удо́бств	comforts
R/mstf/	земств	district assemblies
R/nstf/	та́инств	sacraments
R/kstf/	бегств	fleeings
R/fstf/	Нейстовств	atrocities
R/rstf/	госуда́рств	government
R/ystf/	уби́йств	murders
R/l̦stf/	изда́тельств	publishing houses

(Though cf. also монстр R/mónstr/ monster.)

¶ Place names with the suffix -ск furnish one of the most common sources of final three-member clusters.

R/psk/	Ви́тебск
R/msk/	Томск
R/nsk/	Минск
R/fsk/	Свердло́вск
R/rsk/	Курск
R/ysk/	Новоросси́йск
R/l̦sk/	Арха́нгельск

Assorted other three-consonant final clusters do occur, although none of them are very common, e.g.:

R	/ndr/	Алекса́ндр	
R	/ngr/	венгр	Hungarian (man)
R	/ktr/	спектр	spectrum
R	/ntr/	центр	center
R	/str/	Днестр	Dnester (river)
R	/rst/	верст	gen. pl. of верста́, 'verst' (1.065 km.)
R	/rșț/	горсть	hollow of the hand
R	/lxf/	волхв	magus, wizard
R	/txl/	затхл	musty (short form masc.).

The maximum length of initial clusters in Russian is apparently four consonants. Such clusters result from the prefix spelled вз- or вс-:

R	/vzbr/	взбры́згивать	to sprinkle
R	/vzgl̦/	взгляд	gaze
R	/vzdv/	вздва́ивать	to form fours
R	/fspl̦/	всплеск	splash
R	/fstr̦/	встреча́	meeting
R	/fsxl̦/	всхли́пывать	to sob

¶ Limitations respecting voicing apply to all Russian clusters, initial, medial, or final. For this purpose, Russian consonants are to be

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divided into sets:

"Voiceless" : p p̦ t ț k k̦ f f̦ s ș x š ș̌ c č

"Voiced" : b b̦ d d̦ g z z̦ ž ž̦

"Indifferent" : m m̦ n n̦ l l̦ r r̦ y

Omitting a few special complications, it may be said that within any cluster: if the last consonant is "Voiceless" it is not preceded by "Voiced"; if the last is "Voiced" it is not preceded by a "Voiceless".

The phonemes R/v/ and R/v̦/ are "Indifferent" as far as what may precede them, but they do not precede "Voiceless." The last consonant of any final cluster must be "Voiceless" or "Indifferent".

In English there is a strong tendency for consonants that cluster together to be the same as to voicing, but for many speakers there is no such absolute limitation as in Russian:

E/ds/	Hudson	E/dst/	midst	E/dk/	vodka
E/bs/	Absalom	E/dθ/	width	E/tb/	Whitby

In Russian clusters there are limitations as to where plain consonants may occur in combination with palatalized consonants, and as to where palatalized consonants may occur in relation both to plain and to other palatalized consonants. In general, the only consonants before which either member of a related pair of plain and palatalized consonants can be found are R/pbmfvkg/. To this R/l/ and R/l̦/ present an exception in that either one can be found in many other surroundings.

R /lt/	болт	bolt	R /l̦t/	вольт	volt
R /ln/	полна́	full (short form fem.)	R /l̦n/	больна́	sick (short form fem.)
R /lč/	мо́лча	remaining silent	R /l̦č/	ма́льчик	boy

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The full details of restrictions respecting palatalization are complicated and in some instances show variations among different speakers.

¶ Long consonants, interpreted as clusters involving repetition of the same consonant (geminate clusters), are found in Russian. In most varieties of English, repetition of the same consonant is possible only after an intervening division point [_ /.

отту́да /attúda/ from there	at two /ɨt túw/	нѐт ту́рка /n̦èt túrka) there isn't a Turk
беззу́бый /b̦izzúbay/ 'or- b̦iy/ toothless	is Zuni /ɨz zúnɨy/	чѐрез зу́бья /čè̦riz zúb̦ya/ through the teeth
бесси́лие /b̦ișșíl̦ya/ weakness	mis-sent /mis sént/	блѝз си́лоса /bl̦ìș șílasa/ near the silo

Compare also:

bb	абба́т	abbot			
dd} n̦n̦}	поддо́нник	saucer to put under a flower pot			
nn	Анна				
ss	рассо́л	brine	țț	бу́дьте	be!
žž	изжо́га	heartburn	d̦d̦	пятьдеся́т	50
šš	ни́зший	inferior			

⟨In many cases, however, spellings in Russian which might indicate double consonants are in fact pronounced as single consonants⟩.

Certain consonants in Russian may even be geminate at the beginning of a word:

vv	ввоз	importation	v̦v̦	ввек	never at all
zz	сза́ди	from behind	z̦z̦	с зерно́м	with a grain
ss	ссы́лка	exile	șș	ссек	hind shank
žž	сжёг	burned down (past masc. transitive)	šš	сшил	sewed together (past masc.)
gg	к горе́	to the mountain	kk	к кому́	to whom?

Geminate clusters do not as a rule occur finally in Russian.

Some Russians say R/žž/ in place of R/ž̦/; for them жжёт 'burns' and сжёг 'burned down' both begin the same way, with R/žž/, making occurrences of this combination considerably more ~~frequen~~ frequent.

4.7 Vowel Combinations

In English, vowels do not frequently occur one after the other without being separated by /‗#/. The principal type of exception to this is found when /o/ is the first vowel, as for instance in gnawing /nóɨŋ/, rawer /róɨr/. (An exception following /a/ is found in some speakers' pronunciation of Hawaii /hɨwáɨy/, or of Laos /láows/.)

In most combinations spelled with a sequence of two vowel letters, the first nucleus is, in the speech of most Americans, a diphthong containing /y/ or /w/, e.g. Leah /líyɨ/, chaotic /keyátɨk/, Ohio /owháyow/, create /krɨyéyt/, poet /pówɨt/, duo /dúwow/, Louise /lɨwîyz/.

In Russian a wide variety of vowel combinations can be found, although some of the possible ones are not very common. Some examples are:

руи́на /ruína/ ruins	вы́игрыш /víigriš/ gambling winnings
поэ́т /poét/ poet	не́откуда /ņeátkuda/ there is no place from which to
оа́зис /oáz̦is/ or /aáz̦is/ oasis	ха́ос /xáos/ primordial chaos
био́граф /biógraf/ biographer	сто́ик /stóik/ stoic
пау́к /paúk/ spider	
наобу́м /naabúm/ at random	ва́куум /vákuum/ vacuum

(It is to be noted that after vowels, R/yi/ and R/i/ are in contrast for some speakers but not for others. In any case they are spelled the same (и) as for example in

сто́ит /stóyit/ is worth	сто́ик /stóik/ stoic
пои́ть /payít/ give to drink	пои́стине /paíşţinà/ in truth .)

4.8 Types of Vowel and Consonant Alternation

In both English and Russian there are many cases where different words having the same basic stem (or the same affix) are found to show differences in the form of that stem (or affix). Some of the more important and more regular of these will be mentioned here.

In both languages there are changes of vowels when the stress is at a different place in a word. In English these involve mostly the substitutions of one of the obscure-vowel nuclei for a full-vowel nucleus.

define	/dɨyfáyn/	definite	/défɨnɨt/
patriot	/péytrɨyɨt/	patriotic	/peytrɨyátɨk/
aroma	/ɨrówmɨ/	aromatic	/erɨmǽtɨk/
brigade	/brɨgéyd/	brigadier	/brigɨdîr/
abolish	/ɨbálɨš/	abolition	/æbɨlíšɨn/
record (verb)	/rɨykórd/	record (noun)	/rékɨrd/
attribute (verb)	/ɨtrîbyɨwt/	attribute (noun)	/ǽtrɨbyuwt/
arithmetic (noun)	/ɨrîθmɨtik/	arithmetic (adj.)	/erɨθmétɨk/

(Full vowels occur in stressed syllables, and elsewhere most frequently in the second syllable preceding the stress, but many other patterns also occur.)

In Russian a more systematic pattern prevails: by and large after plain consonants, R/á/ and R/ó/ are both replaced by unstressed R/a/; after palatal consonants stressed R/á/ R/ó/ R/é/ R/î/ are all replaced by unstressed R/i/; after R/ž/ R/š/ R/c/ in most cases R/ó/ R/é/ R/í/ are replaced by R/i/, though for some speakers R/á/ is also.)

(See also pp. 59-62 of this MS.)

ток threshing flour	/tók/	токо́в (gen. pl.)	/takóf/
так so	/ták/	тако́в such	/takóf/
мя́со meat	/m̦ása/	мясно́й of meat (adj.)	/m̦isnóy/
дёрн turf	/d̦orn/	дерно́вый of turf (adj.)	/d̦irnóvay/ (or - iy/)
бе́лый white	/b̦élay/ (or -iy/)	бело́к white of an egg	/b̦ilók/
лист leaf, sheet	/l̦ist/	листо́вка leaflet	/l̦istófka/
жёван chewed (short form masc. past participle)	/žovan/	жева́ть to chew	/živáț/
шесть six	/šeșț/	шесто́й sixth	/šistóy/
жив alive (short form masc.)	/žif/	живо́й living (adj.)	/živóy/
жар heat	/žar/	жара́ high temperature	/žará/ or /žirá/

(Russian stems - and most affixes - have the same spelling, as a rule, whether the vowels in them are stressed or unstressed.)

The consonants in Russian which belong to pairs--one voiceless and the other voiced (cf. (pp. 51-52 of typescript) and (pp. 104-5 of typed)--will be found replacing each other, in accordance to the sequences in which only one sort can appear.

Only the voiced ones can occur before R/b/ R/b̦/ R/d/ R/d̦/ R/g/ R/z/ R/z̦/ R/ž/ R/ž,/, whether or not separated by R/ _ / - as between adjacent words (this does not apply, though, when the words are in separate phrases.) Only voiceless occur before another voiceless consonant or at the end of a phrase or before R/ _ / except when R/ _ / is followed by one of the voiced consonants listed above.

///

Illustrative examples:

Unvoicing:

/b/	ара́бы	Arabs	/p/	ара́бка	Arab woman
/v/	голова́	head	/f/	голо́вка	(diminutive)
/d/	шве́ды	Swedes	/t/	шве́дка	Swedish woman
/d̦/	дя́дя	uncle	/ț/	дя́дька	(diminutive)
/z/	слеза́	tear	/s/	слёзка	(diminutive)
/ž/	норве́жец	Norwegian man	/š/	норве́жка	Norwegian woman

Voicing:

/p/	кре́пла	grew stronger (past fem.)	/b/	креп бы	would grow stronger (masc.)
/s/	росла́	grew up (past fem.)	/z/	рос бы	would grow up (masc.)
/k/	пекла́	baked (past fem.)	/g/	пёк бы	would bake (masc.)
/x/	со́хла	dried up (past. fem.)	/γ/	сох бы	would dry up (masc.)
/š/	лишь	as soon as	/ž/	лишь бы	if only

<The spelling is not usually changed in such cases except for з and с in prefixes: безгре́шный sinless бескро́вный bloodless.>

A regular alternation in English comparable to this is the difference in certain affixes depending on whether the sound which precedes is voiced or voiceless.

cubs	/kʌ́bz/	cups	/kʌ́ps/
ribbed	/ríbd/	ripped	/rípt/

Plain and palatalized consonants also are found substituting for one another.

жен̲а́ /žīná/ wife	жен̲е́ /žīņé/ (dative)
нес̲у́ /ņīsú/ I carry	нес̲ёт /ņīșót/ carries (3rd. sing.)
кровь /króf̦/ blood	кро́в̲ный /króv̄nay/ of blood (adj.)
кро́в̲и /króv̦i/ (gen.)	
двер̲ь /d̦v̦ér̦/ door	две́р̲ца /d̦v̦érca/ (diminutive)

This is not directly comparable to anything in English. There are sporadic alternations of E/C/ with E/Cy/, but these depend largely on position of stress:

circuit	/sʌ́rk̲ɨt/	circuitous	/sɨrk̲y̲úwɨtɨs/
solution	/sɨl̲úwšɨn/	soluble	/sál̲y̲ɨbɨl/
penurious	/pɨn̲úrɨyɨs/	penury	/pén̲y̲ɨrɨy/

(Many pronounce /ny/ also in *penurious*.)

In certain forms in Russian another type of alternation is found:

k	č	пла́кать	to cry	пла́чу	I am crying
g	ž	слу́га	servant	служу́	I serve
x	š	паха́ть	to plough	пашу́	I am ploughing
t(ț)	č	плати́ть	to pay	плачу́	I am paying
d(d̦)	ž	ходи́ть	to walk	хожу́	I walk
z(z̦)	ž	ре́зать	to cut	ре́жу	I am cutting
s(ș)	š	пляса́ть	to dance	пляшу́	I am dancing
st,sk	ș̌	пусти́ть	to allow	пущу́	I shall allow
		иска́ть	to seek	ищу́	I am seeking
c	č	коне́ц	end	ко́нчу	I am finishing

In similar circumstances after labial sounds R/l̦/ is inserted:

p(p̦)	трепа́ть	to worry	треплю́	I am worrying
b(b̦)	люби́ть	to love	люблю́	I love
m(m̦)	дрема́ть	to doze	дремлю́	I am dozing
f(f̦)	графи́ть	to graph	графлю́	I am graphing
v(v̦)	лови́ть	to catch	ловлю́	I am catching

In English there is a somewhat similar type of alternation before certain suffixes:

t	č (š)	legislate	legislature	(legislation)	
d	ǰ(ž)	procede	procedure	(invade	invasion)
s	š	press	pressure		impression
z	ž	seize	seizure	revise	revision

4.9 Conflicts in the Stress Patterns of Loanwords

¶ The principal cases in which the placement of stress in words causes interference between the two languages are in words which have been borrowed into each language, but with the stress on different syllables.

Russian often differs from English by having final stress or, in feminine nouns ending in R/a/ (а or я), stress on the syllable before the last.

студе́нт	student	автомоби́ль	automobile
магни́т	magnet	диагона́ль	diagonal
аспири́н	aspirin	телеско́п	telescope
нейтро́н	neutron	метео́р	meteor
атмосфе́ра	atmosphere	телегра́мма	telegram
систе́ма	system	температу́ра	temperature
батере́я	battery	целлюло́за	cellulose

(French, with automatic final stress, has exerted an influence on the stress of many learned borrowings. The feminine nouns often correspond to words which have a final "mute e" in French.)

The suffixes - ист and -изм are inherently stressed in Russian:

лингви́ст	linguist	атави́зм	atavism
специали́ст	specialist	каннибали́зм	cannibalism

In Russian the stress is often on the middle syllable in a three-syllable word where the corresponding word in English has initial stress.

пара́граф	paragraph	хара́ктер	character
парла́мент	parliament	авто́бус	autobus
сино́ним	synonym		

¶ The stress in Russian is on R/a/ in words ending in -атор.

ора́тор	orator	авиа́тор	aviator
конспира́тор	conspirator	индика́тор	indicator

Pairs of words in which the Russian suffix -ия corresponds to the English suffix -y also suffer a stress dislocation:

исто́рия	history	эне́ргия	energy
демокра́тия	democracy	биоло́гия	biology

The learned borrowings common to the two languages of course involve many other lacks of parallelism beside differences in the location of stress. Often Russian spelling is much more reminiscent of an English word than is the pronunciation. Such partially similar words lend themselves easily to being pronounced by the English learner of Russian in a partly English manner, particularly as to the vowel sounds. (There are also frequent correspondences in the forms of related words which somewhat hinder recognition of the common origin.

го́спиталь	hospital	хара́ктер	character
эква́тор	equator	автома́т	automat
Евро́па	Europe	нейтро́н	neutron
мифоло́гия	mythology	мета́н	methane
цили́ндр	cylinder	but сантиме́тр	centimeter)

Russian and English habits differ in regard to the usual pattern of stress for reading abbreviations.

CCCP R/ês ès ès °ér/ U.S.S.R. E/yúw es es °ár/

In English, the name of the first letter of an abbreviation is pronounced with greater prominence than the middle letters, which is not the case in Russian.

4.10 Phrase Emphasis

As was pointed out in previous chapters, Russian has a phoneme of phrase emphasis R/ˋ°/, comparable to English E/ˋ°/.

In Russian the occurrence of R/°́/ with some word before the last one in a phrase is one way of providing emphasis. The order of words is much freer in Russian than in English, and another way of providing emphasis is to put words in a less usual order. Different word order makes in many cases a less violent change in a sentence than does a shift in the position of the phrase emphasis.

In accordance with this, there is a difference in the patterns of occurrence of Russian R/°́/ and English E/°́/. In circumstances where word order is not fixed in Russian, it is different word order which by and large corresponds most closely in meaning to the shift of E/°́/ in English, while a different position of R/°́/ in Russian is more nearly equivalent to a recasting of the phrase in English.

Thus:

Студе́нт отве°ча́л.	The stúdent was °ánswering.
Отвеча́л сту°де́нт.	The °stúdent was answering.
Сту°де́нт отвеча́л.	It was the °stúdent who was °ánswering.
Отве°ча́л студе́нт	°Ánswering was what the °stúdent was dóing.

Shift in the position of the phrase emphasis is not so common in Russian as in English, where it may take place for no stronger reason than that the final element in a phrase is something rather to be expected, as in

The °télephone ráng.